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GOVERNMENT OF INDIA

MINISTRY OF FOOD AND AGRICULTURE

REPORT

OF THE

RICE MILLING COMMITTEE

1955

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MINISTRY OF FOOD AND AGRICULTURE

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Report of the ri..

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CHAPTER I

INDRODUCTION

The Government of India appointed the Rice Milling Committee by their Resolution No. PY-I-608(5)/54, dated 8th October, 1954, which is given in Appendix I. While recognising the necessity of encouraging hand-pounding of rice, the Government felt the need for an investigation regarding the extent to which hand-pounding of rice could meet the needs of the country. They laid down the following terms of reference for the Committee:—

(i) to examine the working of the different types of rice milling now in vogue in the country from all relevant aspects such as technical, nutritional, consumer preference, economic and employment; and

(ii) to make recommendations as to the future policy that should be adopted and to indicate the administrative, financial and legislative measures which may be needed on the part of Central and State Governments to give effect to them.

In their Resolution No. PY-I-608(5)/54, dated 8th January, 1955, the Government of India requested the Committee to make a similar enquiry in regard to pulse milling also.

2. It will be appropriate here to quote the following recommendations of the Planning Commission in their First Five Year Plan, 1952, on the subject of village industries in general and hand-pounding of rice.

(Paragraphs 10, 11 & 12 on pages 317-318 of the Report)

"A programme of village industries, such as is suggested later in this Chapter, has to be supported both by specific measures of assistance as well as by appropriate State Policy. In addition to the emphasis on technical improvements, research and other measures for improving efficiency, the primary objective of policy should be to provide a field within which each cottage industry may be able to organise itself. Wherever a large-scale industry competes with a cottage industry, the appropriate course to adopt would be to try and formulate a common production programme. In preparing a common production programme, account would have to be taken of the factors determining the efficiency of large-scale and small-scale production, the scope for development through small scale methods, the extent to which the social aspect has to be emphasised and the value of any particular course for increasing rural employment. The aspect of employment will naturally receive special emphasis in considering the details of any common production programme. Common production programmes, which

included cottage industries within their scope, have necessarily to be worked out in general terms, because these industries are still more or less unorganised. Gradually, however, as organisation develops, the programme for cottage industry could be integrated more closely with that for a corresponding large scale industry. In addition to a determination of the overall conditions of supply and demand one or more of the following elements may enter into a common production programme for the related large-scale and small scale industries—

(1) reservation of spheres of production.

(2) non-expansion of the capacity of a large-scale industry,

(3) imposition of a cess on a large-scale industry.

(4) arrangement for the supply of raw materials, and

(5) co-ordination for research, training, etc.

A common production programme for an industry necessarily implies a measure of control by the Government, especially over the organised side of the industry. The subject is considered further in the following Chapter.

The general principle underlying common production programmes can, as a rule, be applied only after detailed study and investigation with reference to the conditions of a particular industry. What is certain is that unless the planning and development of village industries and many small-scale industries is conceived as part of the process of formulating policies and programmes for the related large-scale industries, it will be extremely difficult to promote the smaller industries and almost every technical and economic factor, will weigh against them. Reservation of spheres has, for instance, been already attempted on a small scale between the organised textile industry and handloom weavers. In view of the unemployment which has become a fairly constant feature of the handloom industry, there is scope for the extension of this principle. The principle can also be applied to a number of other industries. For instance, in the oil industry the policy could be adopted of developing the production of edible oils through the village industry and the production of non-edible oils through oil mills.

In the sphere of food processing industries the stage appears to have been reached when further expansion of large-scale industry should not be permitted, except under certain conditions such as, for instance, establishment of a unit by the Government or by a Co-operative organisation. Rural employment has been affected directly by the growth of privately owned units in this field. For example, in the paddy growing areas rice pounding was always a substantial source of employment, both whole-time and spare-time, especially for women.

The recovery of rice from paddy by hand process was also satisfactory. The introduction of rice mills of the huller type greatly diminished this employment and was also wasteful in various ways. It appears to us that in the interest of rural employment and to ensure better nutrition, the Government should now formulate a programme for replacing the huller type of rice mills by organised hand-pounding of rice."

(Paragraph 20(3) on page 322 of the Report)

"Hand-pounding of rice is an important village industry even to this day. It processes about 65 per cent of the paddy, the mills processing the remaining 35 per cent. The programme aims at improving the hand process for increased recovery of rice and production of bran in a pure form by the introduction of paddy husking stone chakkies in place of the pounding method. It is recommended that over a period of 4 years the distribution of about 50,000 chakkies in rice pounding areas might be subsidised. Research is proposed to be carried cut for evolving suitable implements for paddy husking such as paddy separator, a better type of chakki, which can reduce breakage, etc. It is also proposed that rice mills of the huller type should be gradually eliminated."

3. These recommendations of the Planning Commission indicated a State Policy of restriction and control of large-scale industries with a view to a revival of village industries for providing more rural employment. To what extent and on what lines this policy can and should be applied in regard to processing of rice was an important issue for consideration by the Committee. India now stands on the threshold of large-scale industrialisation but under a planned economy much of the inherent antagonism between large-scale and small-scale industries can be removed, the common production policy recommended by the Planning Commission aiming at a co-ordination between the two being followed. Mechanised production is efficient in the sense that it produces more in less time and increases the total value by using more raw materials per unit of manual labour required for handling the machines. But where the supply of raw material is limited and there is a surplus of man-power, mechanisation loses its merit unless it can increasingly find new raw material to handle or new goods to produce, the employment in which will balance the unemployment which it increasingly creates. Unless this condition is satisfied, mechanisation of production may produce the baneful effect of mere exploitation of the weak. In respect of power-driven rice mills the supply of raw material, *i.e.* paddy, has so long been a limiting factor while, on the other hand, there was enough labour in the rural areas which was actually employed in the hand-pounding of rice.

4. In the following extract from a note prepared by the Director of Statistics, West Bengal, in 1954 it has been described how the

growth of rice mills in West Bengal displaced the labour originally employed in the hand-pounding of rice:

(Paragraph 3.6 on page 5)

> "The rice mills of the mofussil, of course, provided some employment to rural people. But the net result was that thousands and thousands of rural people lost their avocation as rice-huskers all over the State, but only a few of them got employment in rice mills as factory labour. If there was a shortage of man-power in the country making it necessary to release some workers for a national purpose or if there was a surplus of rice which was to be produced as efficiently as possible in order to enable the country to sell it in foreign markets at competitive prices, then only such a process of rationalisation might have some justification from the national point of view. But as there is actually a surplus of man-power and shortage of rice, the logic of the rationalised process can only be termed as twisted, twisted deliberately by a handful of organised capitalists and labourers for the sole purpose of appropriating the entire value added by this important food industry to themselves, depriving scores of thousands of small producers of their means of livelihood."

5. Rice is the most important cereal in Indian Agriculture. It covers, according to the figures of 1954-55, 35·8 per cent of the area and 44·6 per cent of the production of cereals in the country. It is the staple food of millions of our population. For most of the poorer classes it is their only food and they are not in a position to supplement it. The nutritive value of the rice produced and distributed for consumption is therefore of great importance and interest to our country.

The level of calorie supplies in India is short of normal estimated requirements by about 550 per day per head. Among crops that give a high calorie yield per unit of area rice stands high, but like all other cereals, as it is not a complete food even in the whole state, it tends generally to lower the nutritional levels in rice-eating regions and for that very reason its own natural nutrients should be retained as much as possible and the recovery per unit increased in the methods employed for processing the paddy.

To achieve this purpose, under-milling of rice and hand-pounding or home-pounding become most imperative but the degree of milling in mechanical mills is difficult to impose as simple chemical or other reliable tests hardly exist as basis of legislative measures. Bearing all these factors in mind, the League of Nations Inter-Governmental Conference of Eastern Countries, held in Bandung, Java, in 1937 had adopted the following resolution:—

> "The degree of milling to which rice is subjected is of vital importance in connection with the problem of nutrition throughout the East. In many countries the poorer classes consume foods other than rice in small quantities, and it is very difficult, for economic reasons, to increase the amounts of supplementary foods in diet; in such circumstances, the nutritive value of the main article of food,

which is infiuenced by the degree of milling, becomes of great significance. The Conference recommends that only under-milled rice should be supplied to Government institutions. Efforts to popularise the use of under-milled rice by education and propaganda should be increased. It deplores the increasing tendency of urban and rural populations in the East to consume highly milled rice. It strongly recommends that Governments should make a thorough investigation on nutritional, commercial, economic and psychological aspects of the problem, attention being given to the possibility of checking the spread of mechanical rice mills in rural areas, with a view to conserving the healthy habit of consuming home-pounded rice, and to means of making under-milled rice easily available everywhere for those who wish to purchase it."

We, in India, cannot stop at this, but must further shape our rice processing programme as most suits our agro-economic condition of more man-power available than is being employed.

6. The hand-pounding of rice used to be done in the homes of the villagers by women workers along with their other domestic duties and they used to retain the bran and a portion of the rice as their wages. This was, therefore, a type of home industry which was part and parcel of the village life of the people, perfectly suited to their food habits and had a great socio-economic value. Whether the displaced labour will now be available for hand-pounding in areas where rice mills have penetrated, to what extent a revival of hand-pounding in these areas would be feasible, whether the hand-pounding industry can co-exist with the rice mills, how the price structure of paddy and rice trade will react to a State planned revival of hand-pounding on a large-scale in areas where it has already died out or is fast disappearing, were some of the questions which the Committee had to investigate. In this connection, the Committee had to enquire into the extent of unemployment or under-employment amongst rural labour to whom the hand-pounding industry was intended to provide employment.

Apart from the question of employment, the Committee also set itself to the investigation of the comparative percentage of recovery of rice from paddy by the different processes of milling, of improvements for saving wastage and breakage, of better hand-pounding implements easier and simpler to handle, and at the same time ensuring better yield, and the ways and means of giving protection to hand-pounding and putting it on a sounder footing. There was also the more important question of ensuring the retention of nutritive value of rice and pure bran under the different processes of milling.

7. The Committee invited and received the views of all the State Governments and toured he States of West Bengal, Bombay, Mysore, Coorg, Travancore-Cochin, Madras, Hyderabad, Orissa, Madhya Pradesh, Andhra, Uttar Pradesh, Bihar, Punjab, Rajasthan, Madhya Bharat and Assam. The Committee also received representations from institutions and individuals interested in milling or hand-pounding, interviewed a fairly representative cross-section of the

rice eating population including rural labour in each State and visited the different types of rice mills and several hand-pounding centres organised by the All-India Khadi & Village Industries Board and also homes in villages where hand-pounding still goes on as a supplementary avocation for women.

8. Notes on each State visited by the Committee and the official reports of the State Governments will be found in Appendix III. Statistical and other relevant information supplied by the State Governments are in Appendix IV.

9. The Committee records its appreciation of the willing co-operation of the State Governments and their officials in the arrangements made by them to facilitate the Committee's tours and investigation, and generally in the Committee's work, and also of the various institutions and individuals, who helped the Committee with their views and advice.

10. The Committee also places on record its deep appreciation of the hard work ably done by its Member-Secretary, Shri N. M. Bardhan, and of the zeal and diligence displayed by him in the course of his work, and of the full co-operation given by the Committee's staff.

(Sd.) C. P. K. MENON.
(Sd.) Mrs. P. JOHRI.
(Sd.) RAOJIBHAI N. PATEL.
(Sd.) JHAVERBHAI PATEL.
(Sd.) I. U. LAKHIA.
*(Sd.) D. V. KARMARKAR.
(Sd.) N. M. BARDHAN.
(Sd.) G. PARAMESWARAN PILLAI.

NEW DELHI;
The 22nd June, 1955.

*Subject is not of dissent at pages 50—

CHAPTER II

IMPLEMENTS OF HAND-POUNDING

11. There are a number of implements used in different parts of India for hand-pounding of rice. They are pestle and mortar, wooden chakki, stone chakki, clay chakki and dhenki.

Generally wooden, stone and clay chakkies are used only for dehusking paddy while pestle and mortar and dhenki are used for polishing dehusked rice and also for combined process of dehusking and polishing rice.

Dhenki is used mainly in Assam, West Bengal, Orissa, Bihar and in some parts of Madhya Pradesh, Uttar Pradesh, Punjab and Andhra both for dehusking and polishing. Pestle and mortar is mainly used in Madras, Travancore-Cochin, Mysore, Hyderabad and Andhra, both for dehusking and polishing rice.

12. **Stone chakki.**—It is generally used in Gujerat. It is made out of soft stone as well as hard stone. It consists of two discs each being 2 feet in diameter and 3 inches in thickness. The discs are placed one upon another and so adjusted with a pair of iron rod and plate that the upper disc can be rotated with a handle when the lower disc remains fixed. At the centre of the upper disc there is an opening of about 7 inches diameter which receives the paddy when the upper disc is in motion. By the friction between the two disc, the paddy is dehusked and the rice comes out through the gap between the two discs. The gap can be regulated with the help of the iron rod and plate to suit the size of the paddy to be dehusked. The dehusked rice is then polished with a pestle and mortar or dhenki. The stone chakki can dehusk about 80 to 100 lbs. of paddy per hour, and the percentage of recovery is slightly greater in the stone chakki than in the wooden chakki. Its advantage over the wooden chakki is that it can be worked without any repairs for a year and it lasts for years. This Gujerat chakki is becoming popular and is spreading to other areas. It costs Rs. 40.

13. **Wooden chakki.**—Wooden chakki, known as Maharashtra chakki, is found in some parts of Madras, Maharashtra and Andhra. This is a flat wooden grinder about 22 inches in diameter and about 18 inches in height. Its working is simple. The output of rice per hour is less than in the stone chakki. Another defect is that the grooves in the working surface wear out very quickly. *i.e.*, within a week of continuous work. It becomes useless within a year. It can dehusk 40 to 60 lbs. of paddy in an hour and it costs Rs. 20.

14. **Clay chakki.**—This is used in the rice growing areas of Vindhya Pradesh and some part of Madhya Pradesh. It lasts only for a short period of 2 to 3 months, after which it becomes useless and is thrown away. Nearly 40 maunds of paddy can be dehusked during the life of the chakki. Chakkies of 16 to 18 inches in diameter are made out of clay which is mixed with fibrous materials.

As this chakki has to be completely dry before use, it cannot be prepared in the rainy reason. 5 to 6 chakkies are, therefore, made in the summer for use throughout the year. It is generally heavy and is worked by two persons at a time, who have to be relieved by another batch after some time. It is thus worked by turns. In a day, with hard labour only 3 to 4 maunds of paddy can be dehusked. It costs next to nothing. The breakage of rice is very little.

15. **Masulipatam chakki.**—This is an elaborate machine in which the stone chakki described above is worked at a high speed by two toothed pinion arrangement. The handle of the machine is rotated vertically by two men, standing. It is a combined winnowing and husking machine. It can dehusk 20 maunds of paddy in a day of 8 hours, but it is very heavy and exhausts the workers soon. In all, five persons are required for dehusking. For polishing by pestle and mortar, two more persons are required. It costs Rs. 700.

16. **Pestle and Mortar.**—This is used both for dehusking paddy and milling (polishing) dehusked rice. It is mainly used in Madras, Travancore-Cochin, Mysore, Hyderabad, Andhra and Coorg. It is also used in other States for milling only.

The mortar is of stone or wood with a hole of about 8 inches deep and 6 inches in diameter. The pestle is of heavy wood ranging from 4 feet to 6 feet in length with an iron hub at one end and a ring at the other, so that it is used for dehusking and polishing as required. In this method, paddy is placed in the mortar and pounded with one or two pestles handled by women. Two women can dehusk and mill 3/4 to 1 maund of paddy in a day. It costs Rs. 10.

17. **Dhenki.**—Dhenki is in vogue in Assam, West Bengal, Bihar, Orissa and in some parts of Uttar Pradesh, Madhya Pradesh, Andhra and Punjab States. It serves both the purposes of dehusking and milling (polishing).

The dhenki consists of a wooden beam working on the see-saw principle fixed to a pivot. To one end of the beam is fixed a short pestle and this drops into a wooden mortar fixed in the ground. The mortar is filled with the paddy and the worker treads on the end of the beam opposite to the one to which the pestle is fixed and thus lifts the pestle two or three feet above the mortar. By suddenly releasing the pressure on the beam, the pestle drops with force into the mortar and husks the paddy contained in it. It can do hulling and polishing by a single process. Normally two to three women are needed to operate a dhenki, one or two working on the beam and the other stirring paddy in the mortar and winnowing husk, while the pounding is in progress. In a day of 8 hours, about 1½ maunds of paddy can be dehusked and milled. It mills 5 maunds of dehusked rice in a day. Its cost varies from Rs. 30 to Rs. 50 according to size and place.

The following extracts from a note about an improved model of the dhenki issued by two professors of the Cotton College, Gauhati, Assam, who have experimented upon the dhenki, may be interesting:

> "The idea of a centre of oscillation in connection with a heavy body rotating about a horizontal axis is as old

as Mersonac (1646). As the dhenki swings round the axle, it dynamically behaves as though instead of a distributed mass as is actually the case, it had a certain mass collected at a particular point called, the centre of oscillation. The coincidence of the centre of oscillation with the centre of percussion was correctly established by Muyghene (1673). The peculiar property of this centre of percussion is that if the heavy body be given a shock at this point, there is absolutely no reaction on the axle. The impact of the dhenki with the paddy must then take place at this point. In other words the pestle must be fitted to the dhenki at the centre of percussion. This would avoid unnecessary jerks, elastic vibrations, noises and a waste of energy that invariably would go with these.

The change has not only increased the efficiency of the machine but the yield of rice per maund of paddy is a lot higher than that of the old dhenkies. The higher yield is due to the removal of the unwanted jerks which formerly broke the grains into unuseable bits.

Dimensions of dhenki.

Weight	30 seers
Length	9 feet.
Breadth	4 inches.
Depth at the paddle end	2½ inches.
Depth at the far end	5 inches.
Distance of axle from the paddle end	2 feet 6 inches.
Distance of pestle from axle	5 feet 1½ inches.

This is the model adopted by the All India Khadi and Village Industries Board.

18. **Winnowing Fan.**—Hand-winnowing takes about 30 per cent of the time spent in the process of husking. Time and labour in winnowing can be saved by using a fan that is being worked in some parts of the country where paddy is husked in large quantities. The fan is useful for other grains also.

The construction and working of the fan are simple. Five or six planks are fixed to a cylindrical axle which is made to rotate in a covering made of wood or tin, having only one opening, through which pass both the grain and the husk. The husk is carried away by the wind and grain being heavy falls to the ground. A second chamber may be attached to the main covering in order to check the husk from spreading everywhere.

This fan will cost about Rs. 120 and does about ten times the work possible by hand-winnowing.

19. (a) The following table gives the working efficiency of the different implements of hand-pounding described above:

Output of rice in day of 8 hours.

	No. of persons employed	Production in Mds.	
Stone chakki . . .	2	From 8 to 10	only dehusking
Wooden chakki . .	2	,, 5 to 6	do.
Clay chakki . . .	2 to 4	,, 3 to 4	do.
Pestle & mortar	2	,, 3/4 to 1	dehusking and milling.
Dhenki . . .	2 to 3	,, 1 to 1½	do.
	2	5	only milling.
Improved Assam Dhenki .	2	5	dehusking and milling.

(b) **Wages, cost and recovery.**—Working with a common hand-pounding implement a hand-pounder can on an average earn 12 to 14 annas as wage per day. The cost of milling by hand-pounding is from Rs. 1/8/0 to Rs. 1/12/0 per maund of paddy, as against 4 to 8 annas by big rice-mills and 6 to 10 annas by small hulling machines. The normal percentage of recovery of rice from paddy is 70 to 73 by hand-pounding and 67 to 70 by machine-milling.

20. It will be seen that there is considerable scope for improvement in the implements of hand-pounding. The main direction of change is to convert the pounding method which is equivalent to hulling method of the mills into the shelling method. This change, although it appears simple, is capable of achieving far-reaching results. In the first place, by splitting the process into two, *viz* of husking paddy in a chakki and then pounding dehusked rice for milling in place of the single operation of pounding paddy for removal of husk, as well as of bran, the physical strain on the worker is considerably reduced. This brightens the prospects for hand-pounding in as much as it removes one of the handicaps of the hand-pounding industry. As the output per unit is considerably raised, the income of the worker is proportionately raised, thus providing greater incentive for hand-pounding industry. Secondly, it enables the production of bran in a pure form, which could be used even as human food. It also improves the quality of rice by reducing breakage.

21. In the light of the experience gained by the All India Khadi & Village Industries Board, it has been found that a combination of stone chakki of the Gujarat model and dhenki of the latest model evolved in Assam will serve the purpose practically for all States. Where production is organised on a commercial scale, the winnowing fan is found useful. As the Board has proposed to undertake the supply on easy terms of these improved implements on a big scale, the process of conversion may be expected to be quite rapid.

CHAPTER III

RICE MILLING BY POWER DRIVEN MACHINE

22. There are two types of power-driven rice mills—huller and sheller.

In the huller which is called the husking machine in some States, the machinery consists of a small sized huller, driven on electric or diesel oil motor of 5 to 20 horse power. The huller consists of two grooved horizontal cylinders set side by side in an outer casing. These cylinders revolve at a high speed up to one thousand revolutions per minute. One of the cylinders receives the paddy while the other discharges it after the husk has been removed. The actual husking is effected by a steel blade set in the outer casing against which the cylinder revolves. The blade is adjustable according to the size of the paddy and the degree of hulling required. The product may be passed again through the same or another huller for polishing. In the rural areas such single huller machines are generally used. This type of machine generally employs two persons. Its capacity is 4 to 6 maunds of paddy per hour. Recovery of rice is 68 per cent to 69 per cent. Cost of milling is 6 annas to 10 annas per maund of paddy. The cost of a huller is about Rs. 200/- excluding motor or oil engine.

23. There are rice mills of the huller type each containing a number of hullers. When paddy is converted into rice in a single huller there is a greater percentage of broken rice than may be economical and to avoid this the paddy is hulled in one huller and the resultant husked rice containing a good proportion of paddy grains is passed through other hullers which are so adjusted as to mill the rice with least breakage. For this reason some mills are equipped with two to four hullers each. Some huller type mills are also equipped with an automatic system. This huller type mill generally employs about 10 persons. The cost of an average big huller mill varies from Rs. 20,000/- to Rs. 30,000/- excluding land and buildings depending on the number of hullers and the power required to work them.

24. In the sheller type of rice mill the dehusking is done by grinding the paddy between two stone discs which resemble the stone chakkies; the polishing of the husked rice is done by automatic cone polishers; the cleaning, dehusking, winnowing, polishing and sieving are automatically performed one after another in a continuous process and the various products, rice, husk, bran, etc. are separately delivered. The sheller type mill with a single sheller generally employs about 10 persons, apart from casual labour. Its capacity is about 50 maunds of paddy per hour. Recovery of rice is 69 to 70 per cent. Cost of milling is about 4 to 8 annas per maund. The cost of a sheller type mill is about Rs. 20,000/- to Rs. 40,000/- excluding land and buildings.

25. In the huller type of mill, dehusking and polishing being combined in the same process, the polishing cannot be controlled to the same degree as in the sheller type operating with a cone polisher. There are some rice mills which combine the sheller and huller types, the dehusking being done by the sheller and the polishing by the huller.

26. **Parboiling.**—In several areas, *e.g.*, West Bengal, Assam, Orissa, Travancore-Cochin and Madras, rice is milled after parboiling the paddy. The paddy is first soaked in water and steamed or double-steamed and dried before it is pounded or milled. In the parboiling process, the nutrient (vitamin B) of the rice is infused into the kernel and the outer shell is cracked. In this process the kernel gets gelatinised and when dry, becomes hard and is not easily broken. This process of parboiling requires considerable open space as drying yard in the mills and more labour than in milling raw rice. Such mills generally employ 50 to 60 persons per day. By this process the brokens and wastage during milling are reduced to the minimum and the nutrients of the rice are preserved, in spite of a certain degree of milling. In some areas there is a prejudice against the use of parboiled rice. This prejudice is for two reasons, one religious and the other faulty method of parboiling which produces a bad smell in the rice.

When the paddy is milled after parboiling, there is not much difference in the percentage of recovery between the huller type and the sheller type rice mills. The bran yielded in a sheller type rice mill is, however, purer than in a huller type mill because in the huller mill the dehusking and polishing are done in a single process, and the bran gets mixed with broken husk.

27. When dwelling on rice mills it will not be out of place to mention that a big machine industry has grown up in the country for the manufacture of mills and their machine parts. There are about forty such factories in this country, more than twenty being in and around Calcutta. Most of these manufacture hullers. There are a few factories producing sheller type mills and among them is a big factory at Bhiwandi in Bombay, known as Dandekar Machine Factory, established in 1912, which manufactures machinery for the sheller type rice mills, and which is worth special mention.

CHAPTER IV

ADVERSE EFFECTS OF GOVERNMENT CONTROL AND OTHER FACTORS ON THE HAND-POUNDING INDUSTRY

28. With the advent of Government control of foodgrains in 1942, the rice mills came to play a very important role in the field of procurement all over the country. In those States which adopted the monopoly procurement system, such as Madras, Andhra and Mysore, the rice mills acting as the main procurement agents of the Government, purchased the entire marketable paddy in the villages, and no private sale of paddy or rice was allowed at any stage. The rice mills processed the paddy thus procured and delivered the resultant rice to the Government for issue as a rationed commodity to consumers. The rice mills were considered as the most convenient and efficient agencies for bulk-handling and speedy processing of paddy to feed the large population of urban and industrial areas under rationing. Some States like Bombay and Hyderabad, followed the levy system in Government procurement under which paddy was levied on producers in proportion to the land revenue paid by each or on the acreage held, and collected at the village level. In Bombay, a part of the procured paddy was allotted by the Government for hand-pounding and the balance was processed by the rice mills. In Hyderabad, however, the entire procured paddy was processed by rice mills. In the old Travancore State where State-wide rationing and monopoly procurement were in force, mills were not employed for Government procurement as the mills were completely banned; this State, however, produced only about five months' requirements, the rest being met by imported milled rice. The procured paddy was issued as ration in the form of paddy. The State of West Bengal followed a system of voluntary procurement and a partial levy on acreage basis, under which the surplus paddy of the large producer was taken over by the Government and traders were also appointed as direct procurement agents who on behalf of the Government purchased paddy in surplus areas which were cordoned off for the purpose. The entire procured paddy was milled by the rice mills. The mills were also allowed to purchase paddy for milling, provided that they sold the entire resultant rice to the Government. Later, the rice mills were allowed to sell one-third of their production in the open market. In Orissa nearly 50 per cent of the exported rice during control was hand-pounded. In Madhya Pradesh 60 per cent of the paddy stocks of dealers and rice mills were procured by the Government and the balance was allowed to be dealt with in the open market. Under the monopoly procurement system, the rice mills largely monopolised the marketing and processing of paddy in the country and multiplied and flourished, with the result that very little paddy was left for hand-pounding, and the producers, even for home consumption, took recourse to the

mills which penetrated into the villages. As a consequence, hand-pounding received a serious setback and practically died out in some States. In the State of Mysore, the Committee was told that only a small percentage of their rice production was hand-pounded. Under the levy system in Bombay, as a result of the Government's patronage, the hand-pounding industry retained its hold on about 38·5 per cent of the total rice production. The Bombay State during the period of control gave further protection to hand-pounding by stopping fresh licences to rice mills and by giving a subsidy. In Hyderabad which followed the levy system of procurement more than 60 per cent of the total rice production is still hand-pounded. In West Bengal and Madhya Pradesh where the rice mills played only a partial role in the procurement system and where sufficient stocks were left to be operated in the open market, nearly 70 per cent and 79 per cent respectively of the total rice production are still hand-pounded.

29. It will thus appear that during the period of control, in States where open market dealings in paddy were completely prohibited under a monopoly procurement system and where mills were employed as procurement agents, the hand-pounding industry practically disappeared, but where sufficient stocks of paddy were left to the open market, the hand-pounding industry held its own appreciably, in spite of the existence of rice mills. The hand-pounding industry was thus pushed out of some States as a result of the then existing special conditions which the Government had to meet during the period of control.

30. Another contributing factor which has placed the hand-pounding industry at a disadvantage *vis-a-vis* the rice-mills, is the lack of holding power on the part of the small paddy producer who is compelled to sell out his paddy soon after the harvest, or even before. The bulk of this paddy thus finds its way into the rice mills. In some cases the small producer is often compelled to sell out not only his surplus paddy but also a part of the paddy required for his own consumption in order to meet his urgent expenses, with the result that he has later on to purchase rice from the market when its price is higher. If rural credit were made available to the producers through a co-operative machinery sponsored by the State, much of their paddy would remain in the villages to be processed by hand-pounding and be sold as rice, to the producers' best advantage.

31. It will thus be seen that the case of the hand-pounding industry is not that of an outmoded handicraft dying a natural death with the advent of the machine. This industry which still has its hold on about 65 per cent of the total rice production of India as a whole, was pushed out of its position during the control days as a result of Governmental measures to meet emergencies and is still being pushed out for lack of rural credit facilities which ought to have been made available to the small producer.

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CHAPTER V

RICE-MILLING AFTER DECONTROL

32. After decontrol in July 1954, the Rice Mills Control Order in the States issued under the Central Essential Supplies (Temporary Powers) Act, ceased to be in force and a licence was no longer required for running rice mills, except in a few States which had already enacted their own independent legislation for the licensing of rice mills. The result has been that in many States a large number of rice mills, especially of the small huller type, have sprung up. Even in Madras State, which had enacted legislation for the licensing of mills, many licences for this type of mills were issued soon after decontrol. In Travancore area of the Travancore-Cochin State where the State Government during the period of control had banned all rice mills, numerous licences for new rice mills have been issued after decontrol. Noticing such development during its enquiry, this Committee requested the Food and Agriculture Ministry to issue immediate instructions to all States to make it compulsory for all existing power-driven rice mills to take out licences and to stop issuing licences to new mills, pending the Committee's final recommendations.

33. During the period of control, the processing of paddy by rice mills was limited to the quota allotted to each mill by the State Government and they could not freely trade in the open market. But with decontrol, this restriction was removed and the bigger rice mills not only increased their production, but also expanded their business in rice and paddy for internal trade and for export to other States. This new development has threatened to cause a further shinkage of the hand-pounding industry. States like Bombay, Travancome-Cochin, Bihar and Orissa which during the days of control followed a policy of restricting rice mills and supported hand-pounding have now to face competition from rice mills of other States because of the removal of inter-State barrier against the movement of foodgrains.

34. During control, the Government made some effort to restrict over-milling of rice by the mills. The natural tendency in hand-pounding is to under-mill and that of rice mills to over-mill, the reason being that over-milling by hand-pounding is labourious and uneconomic whereas over-milling by the mills requires little extra cost and fetches a higher price. Over-milling meant loss of the nutritional content of the rice as well as reduced recovery of rice from paddy. Some of the States, therefore, such as Bombay and Madhya Pradesh, issued orders to the rice mills to produce only dehusked rice without any polish. This order proved unpopular and the consumers as a rule evaded it by getting their dehusked rice polished by the hullers which caused even greater wastage and loss of nutrition. Subsequently this order was withdrawn and the Government of India, on the recommendation of Mr. Moharikar, who conducted a detailed enquiry on this subject,

issued instructions to the State Governments to allow milling by the rice mills upto 3 to 4 per cent removal of bran, which would approach the standard of hand-pounded rice. This order also was not enforced as it was reported not popular. After decontrol the rice mills have been giving the rice they produce, any degree of polish in order to get a higher price.

35. This aspect of decontrol was particularly emphasised during the Committee's tour of the State of Bombay. The Bombay Government during the days of control had at first allowed the rice mills to produce only dehusked rice without any polish. As already stated, this order was as a rule evaded by the consumers who got their dehusked rice polished by huller machines or further pounded in their homes. The State Government then relaxed the ban on polishing and allowed the rice mills to mill rice upto 3 per cent. This Order was kept in force even after decontrol, with the result that highly milled rice from other States started flowing into the State. The Bombay Government were therefore compelled to further relax their order, and allowed their mills to polish rice upto 5 per cent. The position now is that while this restriction of degree of milling applies to the mills in Bombay, highly milled rice from other States is flowing into Bombay.

36. To sum up, so far as rice milling is concerned, the immediate effect of decontrol was that those States which so long followed a definite policy of encouraging hand-pounding industry and of restricting the production and the degree of milling of rice by rice mills, found it difficult to pursue that policy in the absence of a uniform policy in these matters throughout India. The following estimated figures, as reported by the State Governments, will give an idea of the extent of hand-pounding in some of the rice producing States after decontrol:—

No.	Name of State	Rice production (1953-54) in '000 tons	Percentage of hand pounded rice
1.	West Bengal	5,224	70·2
2.	Bombay	1,301	38·5
3.	Mysore	436	4·3
4.	Coorg	51	50·0
5.	Madhya Pradesh	2,663	79·1
6.	Andhra	2,135	50·1
7.	Travancore-Cochin	273	69·5
8.	Madras	2,975	8·2*
9.	Hyderabad	481	60·0*
10.	Orissa	2,340	87·2
11.	Assam	1,633	66·0
12.	Uttar Pradesh	2,246	66·0*
13.	Bihar	4,202	97·4

The average percentage of hand-pounded rice in these rice-producing States is 57:4.

*** Figures have been worked out on the basis of information supplied by State Government. In the case of Madras State, however, the Marketing Officer has stated in his evidence that hand-pounding is 30 per cent. The basis for this statement is not known.**

CHAPTER VI

RURAL UNEMPLOYMENT AND EMPLOYMENT POTENTIAL OF THE HAND-POUNDING INDUSTRY

37. A relevant observation from the Rural Credit Survey Report is quoted below.

(Extract from paragraph 6 on page 5)

"India is essentially Rural India and 'Rural India' is virtually the cultivator, including the village handicraftsman and the agricultural labourer. It seems necessary to remind oneself of this central fact because it is something which is often forgotten in the work-a-day preoccupation of men, institutions and Governments. We refer to the habits, attitudes and modes of thought of the generality of those in towns and cities, whose up-bringing and personal strivings, the pattern of which can perhaps be traced back at least a century, would seem on reflection, to take them farther and farther away from the heart of India."

(Extract from paragraph 7 on page 6)

"The so-called 'medium cultivator' is the very centre of rural production. He numbers two-fifths of all the cultivators. He is in charge of nearly one-third of the total cultivation. He is not so big as to present only the lesser aspects of the problem, nor so small as to grade off into supplementary capacities of artisan, cartman or labourer. For, the smaller the cultivator, the greater the need for him to seek, in addition to cultivation one or more of the other occupations which the village may be able to offer him. The small cultivator, in order to supplement the meagre income from his farm has perforce to pursue one or more subsidiary callings; often, he combines in himself the capacities of both cultivator and agricultural labourer.

Unemployment of rural labour in India is more of the nature of under-employment because this labour is mainly agricultural and agricultural operations vary from season to season and from place to place and are seldom continuous throughout the year. Generally speaking, in irrigated or wet tracts growing double crops, employ ment is available for the cultivating labourers intermittently for six to eight months during the year in such agricultural operations as ploughing, hoeing, sowing, transplantation and harvesting. In non-irrigated areas or dry tracts, growing a single crop, they are employed for not more than four months in the year. Where there are subsidiary occupations, construction work in progress, or large-scale industries situated in the rural areas there is more employment for village labour. But large industries in rural areas are few.

As regards subsidiary occupations, a Sample Survey conducted by the Ministry of Labour in 1952 revealed the following figures:—

Name of State	Percentage of agricultural workers having no subsiiary occupation
1. Assam	58·6
2. Bihar	73·3
3. Bombay	78·1
4. Madhya Pradesh	82·3
5. Madras	77·9
6. Orissa	71·7
7. Punjab	73·8
8. Uttar Pradesh	78·4
9. West Bengal	87·2
10. Hyderabad	85·8
11. Jammu & Kashmir	62·7
12. Madhya Bharat	77.7
13. Mysore	86·2
14. Pepsu	94·5
15. Rajasthan	89·2
16. Saurashtra	63·6
17. Travancore-Cochin	81·6
18. Ajmer	73·9
19. Bhopal	92·3
20. Bilaspur	50·0
21. Coorg	66·1
22. Delhi	86·0
23. Himachal Pradesh	67·5
24. Kutch	39·9
25. Manipur	66·6
26. Tripura	99·2
27. Vindhya Pradesh	91·7
Average	78·8

These figures show that 78·8 per cent of the agricultural workers in India have no subsidiary occupation. This generally indicates the extent of under-employment of rural labour.

38. On the recommendations of the Planning Commission the Government of India are tackling this problem of under-employment through the development of village industries. It does not appear possible for large industries, even when they come to absorb all the rural unemployed population, and even for the number of labourers that may find employment in such large industries, subsidiary occupations should be found immediately in their village homes. Secondly, their link with the village is of great socio-economic value and should be maintained as far as possible. Even when the surplus male labour of a village is drawn to a large-scale industry, the women folk who remain in their village homes can be

occupied in such subsidiary occupation which they can attend to in their domestic environments along with their domestic duties Again agriculture is bound to suffer, especially in irrigated areas which require labour for eight months in the year, if this labour is drawn away to industrial centres for want of full employment in the village throughout the year. For the agricultural labour in these areas it is necessary for subsidiary occupations to be found as can be pursued by them in domestic environments and can fit in with their cultivation work. Furthermore, for raising the standard of living in the village, it is necessary that sufficient rural labour is fully employed in the village so that their earnings may remain there and contribute to the improvement of the village economy.

39. Of rural labour, women form an integral part. The following figures show the working strength of families amongst the agricultural labour population of different zones in India collected by a Sample Survey by the Ministry of Labour:—

STATE	Average size of Family				Working strength			
	Men	Women	Children	Total	Men	Women	Children	Total
Assam	1·59	1·43	2·08	5·10	0·97	·20	·02	1·19
Bihar	1·74	1·68	2·15	5·57	1·28	·43	·08	1·79
Bombay	1·46	1·37	2·21	5·04	0·99	·29	·04	1·32
Madhya Pradesh	1·41	1·45	1·90	4·76	1·11	·54	·13	1·78
Orissa	1·53	1.56	1·85	4·94	1·16	·30	·06	1·52
Madras	1·48	1·53	1·69	4·70	1·18	·66	·07	1·91
Punjab	1·91	1·51	2·24	5·66	1·20	·11	·03	1·34
Uttar Pradesh	1·70	1·43	1·80	4·93	1·12	·07	·02	1·21
West Bengal	1·53	1·45	1·72	4·70	1·12	·16	·03	1·31
Hyderabad	1·56	1·47	1·87	4·90	1·22	·59	·10	1·91
Jammu & Kashmir	2·13	1·71	2·13	5·97	1·07	·02	..	1·09
Madhya Bharat	1·66	1·44	2·13	5·23	1·07	·23	·05	1·35
Mysore	1·63	1·46	2·01	5·10	1·15	·49	·05	1·69
Pepsu	1·76	1·37	2·20	5·33	1·09	·05	·03	1·17
Rajasthan	1·56	1·37	1·99	4·92	1·00	·12	·02	1·14
Saurashtra	1·63	1·56	2·36	5·55	1·10	·34	·06	1·50
Travancore-Cochin	1·62	1·69	2·11	5·42	1·27	·74	·03	2·04
Ajmer	1·56	1 46	1·90	4·92	1·05	·21	·05	1·31
Bhopal	1·46	1·37	1·81	4·64	1·15	·59	·17	1·91
Bilaspur	1·69	1·15	1·46	4·30	1·27	·07	·02	1·36
Coorg	1·32	1·30	1·73	4·35	1·04	·26	·03	1·33
Delhi	1·75	1·54	2·36	5·65	1·18	·10	·02	1·30
Himachal Pradesh	1·65	1·49	1·79	4·93	1·08	·19	·02	1·29
Kutch	1·16	1·43	1·51	4·10	0·81	·34	·02	1·17
Manipur	1·34	1·47	1·80	4·61	0·95	·77	Neg.	1·72
Tripura	1·63	1·49	1·94	5·06	1·05	·03	·01	1·09
Vindhya Pradesh	1·52	1·47	2·03	5·02	1·05	·19	·05	1·29
All sample villages	1·60	1·50	1·94	5·04	1·13	·35	·05	1·55

Where the working strength of women earners is high, 0·66 as in Madras, any scheme for rural employment must include occupations which are particularly suited to women and which they can take up as part-time work along with their domestic duties. In some States such as West Bengal, the working strength of women earners is low (0·16) because even poorer class women are debarred by custom from doing outdoor work for others.

In such States it is all the more necessary that as far as possible indoor occupations should be found for such women to enable

them to contribute to the earnings of the family. It should be noted that under-employment is worst in the States where the working strength of women earners in the Agricultural workers' families is lowest, and therefore any scheme to relieve agricultural unemployment in these States will be incomplete unless it provides suitable part-time occupations for women. The Planning Commission drew a list of eleven village industries besides khadi which may provide employment for rural labour on a village level. Hand-pounding of rice is one of them. The percentage of production of hand-pounded rice to the total rice production is 70·2 in West Bengal, 38·5 in Bombay, 50 in Coorg, 79·1 in Madhya Pradesh, 69·5 in Travancore-Cochine State, 87·2 in Orissa, and 97·4 in Bihar. In some of these States where hand-pounding is still being done on a considerable scale, the producers hand-pound paddy mainly for their home consumption and sell the surplus paddy for being processed by the rice mills. In some States, Bihar, Orissa and Madhya Pradesh, hand-pounding is done on a large commercial scale and the hand-pounders purchase paddy from the market and after hand-pounding it, sell the rice and make a living out of it. The hand-pounding industry in these States, therefore, constitutes a major source of subsidiary employment to the producers and cultivators and other labourers during the off-season. This industry particularly suits the domestic life of the rural population because it is mostly done by the women folk in their homes along with their other domestic occupations. In this country, there are women of the poorer agricultural classes who are not accustomed to do outdoor work except in their own fields, and there are women of lower middle-class who are by custom debarred from doing any outdoor work. For these women hand-pounding is a suitable source of employment.

40. For processing 1 maund of rice a day normally 2 women can be employed, each working 8 hours per day on a wage of 10 annas to 1 Rupee. Calculated on this basis, if the paddy which is now being processed by rice mills be hand-pounded, it can employ 19·85 lakhs of more persons in the following States working for 150 days in the year as indicated below:—

Name of State	No. of persons employed in hand-punding (in '000)	No. of persons employed in rice mills (in '000)	Additional No. which can be employed if paddy processed by rice mills is entirely hand-pounded (in '000)
Andhra	160·7	25·8	383
Assam	161·7	3·1	200
Bihar	613·7	4·2	40
Bombay	75·1	5·4	288
Madhya Pradesh	316·1	4·5	200
Orissa	306·0	9·0	108
West Bengal	550·3	40·9	560
Hyderabad	80·0	4·4	17
Mysore	3·0	4·5	150
Travancore-Cochin	28·5	3·0	30
Coorg	3·8	0·2	9
TOTAL	2,298·9	105·0	1,985

Assuming that at present roughly 10 million tons of rice are processed by rice mills out of a total annual production of 27 million tons in the whole country, an additional number of nearly 40 lakhs of persons can be provided with employment if this entire production of the rice mills could be taken over by the hand-pounding industry, on the basis of 150 days in the year available for each person for this subsidiary work. Even at the rate of 12 annas per head per day, the total wages earned in a year of 150 days by this labour population would be about 45 crores of Rupees. This shows the great potentiality that the hand-pounding industry has as a means of employment to the large under-employed rural population. The hand-pounding industry is particularly suitable as a subsidiary occupation to women workers. Until recently, when it was pushed out from some of the States by rice mills, it formed a traditional part-time occupation for our village women and hand-pounding implements are still to be found in many of the homes all over the country and can be made locally at a negligible cost.

CHAPTER VII

IMPEDIMENTS IN THE WAY OF ORGANISING AND DEVELOPING HAND-POUNDING INDUSTRY

41. Having seen the vast scope that the hand-pounding industry affords for the employment of a considerable number of the huge under-employed rural population in the country, a scope much vaster than in any other individual village or cottage industry except khadi, the Committee strongly feels that no time should be lost in taking, and pushing through vigorously, all the practical measures that are necessary and possible to organize and develop this industry with a view to the employment of as many as possible of the under-employed population and as quickly as possible. We have seen in the previous chapters that this industry lost ground with the advent of rice-mills and suffered a serious blow during the days of control when rice-mills were actively encouraged by the Government as their purchasing, processing and distributing agents and when in some States no private sale of paddy was allowed. We have also seen that the hand-pounding industry suffered in proportion to the rigour with which the Government enforced their monopoly procurement schemes and ban on rice sales, but that the industry has still survived to a large extent in several States.

42. It is chiefly competition by the mills that has put out the hand-pounding industry. For every mill that was introduced about 500 persons were thrown out of hand-pounding work. Even the small huller machine which has been and is rapidly expanding in number and has invaded the villages, displaces about 40 persons employed in hand-pounding. As has been observed the tendency is still for the mills and for the small huller machines to expand their activities to the further detriment of the hand-pounding industry. Unless this increasing competition from the mills is checked. it will be difficult to encourage and develop hand-pounding.

43. **Small huller machines.**—Of the mills, the most serious menace to the hand-pounding industry is the small huller machine which operates in the villages in front of the labourers' homes. For his home consumption the cultivating labourer or the producer normally either hand-pounds his paddy at home or gets it milled at the nearest power-driven huller machine. Even though he and his women folk have time to hand-pound paddy for their own consumption, he has now a tendency or a temptation to take his paddy for milling to the nearest huller. This tendency or temptation which kills his own industry and causes unnecessary expenditure of his scanty earnings is spreading rapidly with the increasing number of the small huller machines in the rural areas, and has tended to a growing laziness amongst cultivating labourers. These small hullers are increasing by hundreds every month in the States and are invading more and more villages. If this type of huller is removed, the rural labourer would, no doubt, himself hand-pound

at home, as he used to do, and thereby save the cost of milling which comes to about six annas per maund of rice. On an average, more than 60 per cent of the population of a State comes under the category of cultivating labourers and small producers. If the huller machine goes, a large percentage of the rice production of a State will be hand-pounded by the cultivating labourers and producers themselves, and the question of availability of labour would present no difficulty. But this question will arise in the case of a big producer who, in the absence of a huller, will have to get his paddy hand-pounded with hired labour either for his home consumption or for the sale of his surplus paddy in the form of rice. With the advent of the mills his tendency is to get his paddy milled at the nearest huller for home consumption and sell his surplus paddy in the market which finds its way to the big rice mills. The question of availability of hired labour for hand-pounding in the case of the big producer is really one of giving a remunerative wage to the hand-pounder. The normal wage for a women labourer for agricultural work in the villages varies from -/10/- to Re. 1/-. If the big producer is prepared to give this or a slightly higher wage for hand-pounding, labour would be available for such work because of the prevailing under-employment amongst the agricultural labourers. But so long as the huller is in the village, the big producer will prefer to get his paddy milled by the huller at a small cost rather than have it hand-pounded with hired labour at a higher wage. On the other hand, in the absence of the huller, the big producer will be compelled to employ the available labour and it would not be too hard on him to have to pay a remunerative wage to the hand-pounder which may be a little more expensive. When sufficient labour will thus be attracted to hand-pound rice for the home consumption of the cultivating labourers and the producers in the rural areas, the same labour will hand-pound rice for the village markets also.

44. These small huller machines do not serve any useful purpose. On the other hand, they are wasteful and difficult to control. They are wasteful because, unlike bigger rice mills, especially sheller rice mills, they are handled by unskilled labour causing more brokens, and less recovery of rice and produce a mixture of broken husks with the bran, thereby reducing the value of the bran as cattle fed. It is difficult for any administrative machinery to control or supervise these machines, because they are scattered all over the villages. They are instrumental in depriving the agricultural workers who used to make a living by hand-pounding, of their means of livelihood because large producers find it cheaper to get their paddy milled by these small machines instead of having it hand-pounded. The small hullers have increased in number also as a result of rural electrification and are often used with irrigation pumps provided by the Government to cultivators on loan basis. The huller excluding the motor costs little, about Rs. 200/- and the motor or the oil engine can be used for various other purposes. The Committee, in the course of its enquiry, found a preponderence of opinion in favour of eliminating these small huller machines either immediately or within the shortest possible time, on the ground that they serve no useful purpose and have proved most harmful by penetrating into the villages and depriving agricultural workers of their subsidiary

means of occupation. The Committee considers that rice-milling by means of small huller machines should be banned as soon as possible. These machines were during the days of control required to take licences under the old Rice Mills Control Orders. It is proposed that these should be brought under a licensing system in terms of fresh Rice Mills Control Orders to be issued by the State Governments. No further licence should be issued for these machines, and the licences of existing machines should not be renewed. This would eliminate these hullers within about a year. The Committee suggests 31st December 1956 beyond which date no such machine should be allowed to operate. Such a measure will be justified on grounds of law and equity, because, as already pointed out, these small hullers cause wastage of food in the process of milling and it will be against public interest to allow such wastage, and because they aggravate the unemployment problem in the rural areas by throwing out larger and larger number of persons from the hand-pounding industry.

44A. The Committee understands that in some States these hullers were purchased by displaced persons with rehabilitation loans granted by the Government. But this is no reason to allow them to operate these machines against the public interest. On their abolition the Government may consider the writing off of the unpaid balances of the loans which were utilised for purchasing these machines As the owners of these machines will be forced out of their employment, though their number would be very small when compared with the number of persons which their machines threw out of employment, it is desirable that the Government consider rehabilitating them as far as possible in the hand-pounding industry, as they are already in the trade, or if the Government do not consider it feasible, in some other employment, or give them such financial assistance as may be necessary.

45. **Big rice mills.**—The abolition of small huller machines, as suggested above, will afford the hand-pounding industry scope for its speedy revival in the villages but its development even in the villages could be thwarted by new rice mills being set up to take over the work done by the small huller machines.

There is practically a unanimity of opinion that no more rice mills should be allowed in the country as the number of existing rice mills is quite enough for meeting all the essential needs, and in some areas there are more than enough, and new rice mills will serve no special purpose, but will only throw more people out of the hand-pounding industry. The Committee entirely agrees with this view and recommends its acceptance with immediate effect as the Government's policy. There may, however, be special circumstances, *e.g.*, in emergencies, in which the installation of a mill is unavoidable to ensure essential supplies of rice. In such cases new mills may have to be permitted. But such permission should be in very exceptional circumstances, and in order to avoid this provision being abused and the Government's general policy being defeated, the Committee would suggest that the necessity for such new mill should be considered at Governmental level in States and permission should be given for a number of smallest units to cover the requirements, which units should be managed by the Government or a Co-operative Society as the Government may decide

46. To enforce this recommendation, the system of licensing rice mills should be introduced in all the States. During the days of control, all rice mills were subjected to a licensing system by Rice Mills Control Orders issued by State Governments under the Central Essential Supplies (Temporary Powers) Act, 1946. This Central Act ceased to be in force in January 1955 and has since been replaced by a new Act, *viz.*, The Essential Commodities Act, 1955, which has given fresh powers to the State Governments to issue orders for the licensing and control of rice mills. Some State Governments have not yet issued fresh orders under this Act. All State Governments who have not yet reintroduced the system of licensing rice mills by fresh orders should be requested to do so immediately. In fact, this Committee during its investigation, wrote to the Ministry of Food and Agriculture to advise the States not to grant any new licence for rice mills pending receipt of the Committee's final recommendations. In connection with the licensing system to be introduced, it will be useful for the State Governments to have a complete census taken of all the existing rice mills in order to ensure that all of them take out licences.

47. **Restriction of production by existing mills.**—After decontrol, the tendency of the bigger mills of large capitalists has been to increase their production rapidly, thereby pushing out not only the hand-pounding industry but also those mills which are not so large. The object of the proposal recommended in paragraph 45, *viz.*, not to allow new mills, will be defeated if the existing mills can expand their production or, in other words, if their production is not definitely restricted. Increase in production by a mill can be by adding to the existing installation and by increasing the number of working hours. Restriction in both these directions is necessary. The existing mills should not be allowed to have additional installations. Most of these mills did not in the past work up to their full capacity. There is no justification now to allow them to work up to their full capacity and thereby narrow down the field of the hand-pounding industry. The Committee therefore considers it necessary to restrict the production of these mills. In fact, the object should be to reduce their production gradually. To enforce such restriction by prescribing a quota for each mill would be difficult and would require an elaborate staff. A simpler and easier method would be to have a general limit on the hours of work of the rice mills so that the over-all production by mills may not increase. A check on this limit is easy especially in the case of mills driven by electricity, the supply of which could be controlled. The Committee recommends that their production should be restricted to not more than six hours a day. If, however, this is not considered effective enough to achieve the object in view, the Government may prescribe any other more suitable alternative, the chief idea being that the production by each mill should not increase but should progressively decrease.

48. **Competition from the white and cheaper milled rice.**—Before the advent of the mills people were satisfied with hand-pounded rice. It is chiefly due to the curtailment of hand-pounding during control days, that milled rice came to be eaten more and more. As compared with hand-pounded rice, the white polished rice of the

mills is more attractive and people who have got accustomed to this white rice, especially the urban population, prefer this to the hand-pounded rice. Milled rice is also cheaper than hand-pounded rice, the difference being about Rs. 1/4/- per maund and the poorer sections of the population take to the milled rice more and more because of its cheapness. It will be difficult for the hand-pounding industry to make any speedy progress in the face of competition from cheaper milled rice unless steps are taken to cover up the difference in price by a cess and/or subsidy.

49. **Elimination of the existing rice-mills.**—In certain areas, for instance, the States of Bihar and Orissa, Raigrah and Bastar in Madhya Pradesh, and the Trans-Rapti region in Uttar Pradesh, the hand-pounding industry has been producing rice on a commercial scale and even for export. But in other States, these requirements are met only by the bigger rice mills. The bigger rice mills have during the past few years, especially as a consequence of the Government's control measures which practically prevented all scope for hand-pounding, been discharging certain essential functions in regard to food supplies in the country. They have got facilities for storage and are capable of prompt production of bulk supplies of a standardised quality under centralised supervision and control. In an emergency, such as flood or famine, where large quantities have to be produced within short time and moved for relief, these mills will play a very useful part. This was our experience during the last war when thousands of tons of rice had to be moved from place to place almost every month at very short notice. Normally the mills are also an effective trade agency to ensure an even supply of rice throughout the country. The mills also at present ensure to the cultivator a ready agency for purchasing his grain whenever he requires cash. It is true that in some cases the millers by resorting to advances of cash to cultivators on the security of standing crops, compel them to part with their grain at low prices dictated by the millers. But this is true of any trade agency, when the cultivators have no other credit facilities. These essential functions which are now being discharged by the rice mills have to be borne in mind while schemes are formulated for organising the hand-pounding industry in any area and provision should be made effectively for the discharge of these functions. Some advocates of the hand-pounding industry generally recommend that even the existing mills should be eliminated in a specified number of years because they consider that so long as there is competition from rice mills hand-pounding industry cannot make any headway. While some of them would like the mills to be eliminated immediately, say in the course of 2 to 3 years, others would put the period as 5 to 10 years. They consider that during this period the hand-pounding industry can be so organised and developed as to be able to supply the entire needs of the country. Several others, including milling interests, however, have suggested that hand-pounding industry cannot be developed so as to take over all the supplies needed in the country and therefore the mills should continue, one reason stated being that sufficient labour will not be available for hand-pounding work. Most of the State Governments in their memorandum to this Committee wanted the existing rice mills to continue. A few others recommended that these may continue but they should not be allowed

to produce upto their full installed capacity and should be restricted to what they produced during the period of control. The Committee has given this matter very deep thought. Two conflicting claims have, in particular, made the Committee's task in arriving at a decision, difficult. One relates to the inescapable responsibility of the State to ensure normal supplies to the people, of so essential a food commodity like rice. The other, which claims no less the attention of the State and throws upon it an equally great responsibility is the necessity to ensure that within the shortest possible time, the number of the unemployed is reduced to the greatest extent possible. The Committee considers that from the main objective of absorbing to the maximum extent possible all the available labour in the hand-pounding industry, the Government should adopt a policy of expanding the hand-pounding industry and eliminating the production of rice mills so as to enable the hand-pounding industry as quickly as possible to meet all the essential needs of the country. While it is obvious that it will take time for the hand-pounding industry to be organised sufficiently to take over completely the production of 14 million tons of paddy that are being processed at present by mills, it is equally obvious to the Committee that unless there is a definitely phased programme for elimination of mills which are today flooding the market with milled rice, it will be extremely difficult for the hand-pounding organisation to expand. It is only when the supplies now being met by the mills are cut off that hand-pounding rice will have a chance to enter the market. The Committee, therefore, despite the possible dangers involved, would recommend to the Government that as a target to be aimed at, a period of 5 years should be fixed for the fullest development of the hand-pounding industry on the one hand and the elimination of mills on the other. Of course, in States, where circumstances are more favourable for the earlier fulfilment of the target, the Governments concerned could phase their plans accordingly. In order to avert the possible danger of jeopardising adequate food supplies, the Committee recommends that at the end of each year of the Five Year Plan period, a through review of the situation should be conducted at Governmental level, by the State authorities concerned, to assess the progress made in each of the spheres of the target, viz., the improved organization of the hand-pounding industry to meet the food supplies and the progressive elimination of mills, in order to secure the adequate fulfilment of the programme. Any revision necessitated, in consideration of either of these two aspects, must be effected, at the appropriate time, in the plan of the succeeding year so that within the overall period, the target is achieved.

50. Such a policy would indicate a plan formulated by the State Governments, say for five years, for the organisation and development of the hand-pounding industry and a corresponding replacement of the mills, and also for a review every year of the progress made in the plan and necessary revision of the plan. This five year plan will be a target to be aimed at for achievement within that period. Without such a definite plan, the Committee fears that not only the initiation of action to give effect to the Government's policy

may be delayed, but the progress of the organisation and development of hand-pounding may be haphazard and also delayed unnecessarily. It will be desirable for the Government of India at the end of three years to review these plans in the light of the experience gained till then and the actual progress achieved, so that any necessary revision of the plans may be ordered in time before the end of the five year term.

51. **Elimination of huller type mills.**—If any mill has to be retained in any area of the country to meet essential needs, or for production for export, such mill should be only of the sheller type or of the combined sheller-huller type. This is in order to avoid the unnecessary wastage caused by the huller type mills.

52. **Ban on replacement of parts of mills.**—A view has been expressed before the Committee that in order to restrict production by mills and their eventual elimination there should be a ban on replacement of parts by the existing mills. This view is not acceptable as it would be inconsistent for the Government to renew the licences for existing rice mills and at the same time to refuse to allow them to replace their parts. The proposal implies that such a ban should be incorporated in the Rice Mills Control Order but it will be extremely difficult to enforce such an order. In view of the various restrictions already proposed on production by mills, the ban on replacement of parts is not necessary.

53. **Acquisition of existing bigger type rice mills and management thereof by the State for essential purpose.**—Some advocated immediate State acquisition of the rice mills so that these may be run by the State for meeting only essential purposes in order to avoid competition from private mills, leaving the rest of the field clear for the hand-pounding industry. But this would involve payment of compensation to the mill-owners. According to the census of Indian Manufacturers 1950, the total number of rice mills registered under the Factories Act in India were 1,424 with a total fixed capital investment of Rs. 5·98 crores. But there must be many more registered and not registered under the Factories Act. Without an up-to-date census taken of the mills in the country, the Committee is unable to offer any recommendation on the subject of compensation.

54. The Committee feels it necessary here to bring to the notice of the Government the complaints received by the Committee in various places from responsible quarters about undue political influence and pressure brought to bear on Governments and individual Ministers for granting licences for mills in individual cases. It is very necessary that no political or other extraneous considerations should be allowed to creep in the matter of enforcing the Government's policy in future regarding the mills, if the unemployment problem is to be tackled seriously and speedily.

CHAPTER VIII

ENCOURAGEMENT OF HAND-POUNDING INDUSTRY

55. The cost of milling rice by machine is cheaper than by hand-pounding. The cost varies from place to place and from mill to mill but generally there is a difference of about 1/4/0 a maund between milled rice and hand-pounded rice. This comparative cheapness of the milled rice is the chief reason for the poorer sections of the population preferring milled rice, which preference has been increasingly largely, and for the discouragement of the hand-pounding industry. The consumers' preference in rural areas and generally among the poorer sections is for hand-pounded rice provided that such rice is available in the market for a reasonable price. This handicap in the matter of price for the hand-pounding industry should be removed. It has been suggested that this difference in the cost of production should be covered by a cess on mills or by a subsidy to hand-pounding or by both. The following recommendation of the Planning Commission in the First Five Year Plan on the subject of levy of a cess may be referred to in this connection.

(Paragraph 13 on page 319 of the Report).

> The imposition of a cess on a large-scale industry for the benefit of the corresponding cottage industry may have two objects. The first object may be to equalise the difference in their costs of production. We believe that the scope for the imposition of a cess for achieveing this object is limited and, in any event, such a measure should only be taken after careful investigation by an appropriate body. On the other hand, if the problems of the large-scale industry and the cottage industry are viewed in terms of a common production programme and it is recognised that improvement in the efficiency and growth of the cottage industry are basically in the interest of the development of the industry as a whole, it is legitimate to suggest that the organised sector of the industry may provide, by means of a small cess, the means for promoting technical improvement and organisation in the weaker and the unorganised sector. It is for this reason that the Central Government has recently decided to impose a cess on all mill-made cloth so as to raise funds for the development of the khadi and handloom industries. On similar grounds, we recommend the imposition of a small cess on mill oil for the benefit of the village oil industry.

One view placed before the Committee was entirely for cess and no subsidy, another view entirely for subsidy and no cess, a third

view preferring both subsidy and cess at suitable rates. The argument in favour of a full cess was that consumption of the highly polished and less nutritious milled rice, which habit has been spreading at an alarming rate, should be definitely discouraged by raising its price fully to the level of that of the hand-pounded rice that this would discourage large sections, especially poorer sections of the rural population going in for milled rice and that this would help the development of hand-pounding. One objection advanced to this proposal was that by levying a full cess, *viz.* Rs. 1/4/0 per maund which represents the difference in the prices, the Government would be collecting a much larger amount that would be required for subsidising hand-pounding, which is not justified. For example, the total cess at Rs. 1/4/0 a maund would amount to nearly 34 crores of rupees on about ten million tons of rice now produced by the mills in the first year, this amount of course decreasing as mills are replaced by hand-pounding. Another objection to a full cess on mills is the higher price which may have to be paid by the consumers to whom this burden would be shifted by the mills.

The argument in favour of a full subsidy (at Rs. 1/4/0 a maund) to the hand-pounding industry is that the consumers' price should not be pushed up but the price of the costlier hand-pounded rice should be pulled down. The objection to a full subsidy is the expenditure which the general revenues will have to meet. For example, of the ten million tons of rice now milled, subsidy on an average of five million tons a year will work out to about 16 crores of Rupees. In fact, the amount would be much more if the existing hand-pounding industry also comes under recognised Organisations eligible for subsidy. This would be a heavy burden for the Government to bear. The Committee after considerable thought over this matter, feels that a cess of 6 annas a maund of paddy milled and an average subsidy at 8 annas a maund of paddy hand-pounded would be best. This rate of cess would not raise the price of milled rice appreciably, and at the same time would contribute to some extent towards bridging the gulf between the costs of production. The actual collection of the cess in the first year might take time and may not be available for subsidising hand-pounding. As it is not desirable to delay the organising of the hand-pounding industry in any way, the Committee has proposed an increased subsidy of 8 annas a maund of paddy hand-pounded, at least in the first year, so that all the funds needed to start developing hand-pounding immediately may be readily available. At present an average subsidy at 6 annas a maund of paddy hand-pounded is paid by the All India Khadi and Village Industries Board. 14 annas (cess *plus* subsidy) for a maund of paddy would work out to about Rs. 1/4/0 per maund of rice and would cover the present difference in the costs of production.

As regards subsidy, the concensus of views is that it should be paid only to Co-operative organisations and recognised institutions and social workers certified by the Khadi and Village Industries Commission, a statutory body, which is soon to be set up. The subsidy is to be paid wherever the price of hand-pounded rice is higher than milled rice as determined by the Commission. The

subsidy should be only for a specified period of say five years in the first instance, after which the position should be reviewed by the Government. The Committee recommends this view for acceptance. A question was raised whether the subsidy should be paid to individuals who organise hand-pounding. Adequate checking will not be possible if the subsidy is extended to such individuals but in order to encourage even individuals to organise hand-pounding, the committee suggests that such of those individual who are certified by the Khadi and Village Industries Commission should be allowed concessions in the form of easy credit and implements at subsidsed rates.

56. **Improvement of hand-pounding implements.**—The improved models of those implements suggested in Chapter II should be popularised. These improved models will not only yield a greater outturn but will make the hand-pounding work lighter. In fact the reason stated to support the argument that hand-pounding work will not sufficiently attract labour is because of its strenuousness. Even with the implements now commonly in use perhaps the work is not more strenuous than other work such as breaking and carrying of stones, road construction, bund repairing etc., which women labourers from many States are doing at present. The simplification of the hand-pounding implements will go to make the work definitely easier. Improved models of these implements could be devised and produced in the factories which now manufacture milling machinery.

57. **Provision of credit facilities for hand-pounding organisations.**—This is dealt with in detail in the succeeding Chapter on Co-operative hand-pounding centres.

58. **Purchase of hand-pounded rice by Government Departments.**—The States of Andhra and Assam have agreed to purchase rice from hand-pounding centres. Government concerns such as jails, hospitals, and Government managed canteens will provide a great incentive to the development of the hand-pounding industry. The Community Development and National Extension Service Blocks, which cover about 40·66 millions of the population should include in their programme the production of hand-pounded rice on an organised and commercial scale. Organisation of the hand-pounding industry may also be made one of the statutory functions of the Gram Panchayats. The hand-pounded rice produced at hand-pounding centres certified by the Khadi and Village Industries Commission should be exempted from sales tax in States where rice is subjected to sales tax. The existing rules should be amended accordingly.

59. **Publicity and Propaganda.**—Publicity and propaganda should be made through schools, colleges, the Community Development and National Extension Blocks, Women's organisations, the Red Cross, the Cinema, the Radio, the Stage and literature:

(i) to emphasise the nutritive value of hand-pounded rice and to induce consumers to eat such rice;

(ii) to emphasise the greater potentiality of the hand-pounding industry to provide employment.

CHAPTER IX

CO-OPERATIVE HAND-POUNDING CENTRES

60. The development of village industries should in the opinion of the Planning Commission be as much a matter of State action as the increase of agricultural production. The improtance of the suubject has been well emphasised by the Prime Minister recently at the A.I.C.C. meeting at Berhampur while moving the resolution on the Second Five Year Plan. He said, "that people who in the past looked with strong disfavour on village and cottage industries; while thinking today in a planned way, have been forced to come to the conclusion that large-scale development of village and cottage industries is essential to our future growth as well as present well-being. If you have heavy industries on one side it becomes quite essential to balance them with a large-scale growth of cottage and village industries. In a huge country like India such work requires a greater organization at village level."

61. Reference has been made earlier to the specific recommendation of the Planning Commission in the First Five Year Plan regarding the sphere of food processing industry. The Commission was definitely of the view that in the interest of rural employment and to ensure better nutrition, the Government should now formulate a programme for replacing the huller type of rice mills by organized hand-pounding of rice. The hand-pounding industry is closely linked with the agricultural economy of the middle and small cultivator as well as of agricultural and non-agricultural labour in the villages. Notwithstanding the penetration of rice mills throughout the country—it is estimated that nearly 65 per cent of the total production of rice is still hand-pounded—the enquiries made by the Rice Milling Committee reveals that in some rice-producing States like Bihar, Orissa and Madhya Pradesh, the percentage of hand-pounded rice to the total production in these States is 98, 90 and 78 respectively.

62. The medium and the small holders now account for about two-fifths of the agricultural produce of the country and, as observed in the Credit Survey Report, "as large holdings give place to not so large, more and more will the medium and small cultivator become increasingly important as a person who need have to be studied and borne in mind in the formulation of policies and of agricultural credit and agricultural development. The smaller the holdings he cultivates, the more is his dependence on other forms of earning. For the cultivator generally, whether his farming economy be small or medium or in relative terms, even large, there is great need of enlargement of the scope of his subsidiary occupations; they may, for instance be either agro-industrial like the processing of paddy, etc., or the mixed farming type like dairying and the rearing of livestock in conjunction with the cultivation of land. (Page 371).

63. Wherever mills have penetrated in large numbers in the interior of the country, the hand-pounding industry has been greatly depressed. As has been described already, it was mainly during the war period when procurement and rationing were undertaken by the Government and rice mills were used as their agents that the mills assumed an importance in the scheme of purchase and storage of paddy and processing and marketing of rice. The comparatively unorganised hand-pounding industry, though an essential feature of village life, was largely superseded by millowners who had State support and adequate financial backing from Commercial Banks and indigenous bankers and from the big producers. The plight of the middle and small holders and even the comparatively large producers who were not engaged in trade is well described in Chapter 7 of Vol. II of the Rural Credit Survey Report.

It is estimated that of the total marketable surplus of paddy some 56 per cent reaches the consumer in the form of paddy and the balance as rice and that about 35 per cent of the production is sold by the cultivator to traders and commission agents. The preponderance of sales within the village itself, as distinguished from sale at the market town, is apparent from the Survey Report. It has been found that where very nearly two-thirds of the sale transactions have been entered into, the commodity was delivered in the village itself. The buyers at the first stage are largely traders and commission agents, and to a very limited extent, manufacturers. Those engaged in the processing of agricultural commodities are comprised of small and middle cultivators, cultivating labourers as well as those engaged in non-agricultural production. The smaller the cultivator, the greater the need for him to seek, in addition to cultivation, one or more of the other occupations which the village may be able to offer him. In order to supplement the meagre income from his farm the smaller cultivator is forced to pursue one or more subsidiary callings. Paddy husking was one such, particularly among the women section.

The private trader or commission agent because of the financial resources at his back and the private money-lender *cum* trader because of both resources and local knowledge at his back, are both in a position to offer the credit urgently required by the cultivator at the time he needs it and what is more important they are also able to provide the marketing arrangements (including processing, storage, etc.) which help the final disposal of his produce. It is to them, therefore, that the cultivator sells his crop or pledges it in advance either formally or informally. The transaction of purchase is effected long before the cultivator has obtained his harvest. Much of his financing takes place as advance payment of part of the purchase price. Such finance has in appearance the merit of being 'production' finance; in practice, it has the notorious draw-back of being one of the means whereby the weaker section of the agricultural economy, which is also by far the major section, is rendered subservient to the superior financing resources and bargaining position of powerful private interests. In fact, the farmer does not fix the prices of his produce; they are imposed upon him, so that his profits are limited and he often suffers loss. The cultivator's position is that of having to bargain,

if he can, with some one who commands the money, commands the credit, commands the market and comes with the transport.

64. The Rural Credit Survey Committee therefore postulates that the existing function of the trader in agricultural commodities, in so far as it is significant for future agricultural credit or marketing, is something to be transferred in large part to a co-operative or other suitable institutional agency; it is not a feature which would justify inclusion of the traders as part of an integrated solution. With more resources and the willingness to take the trouble co-operatives should be able to provide finance in at least larger volume than at present in the form of crop loans based on acreage and the nature of the crop grown. A more radical improvement in the position would be possible if co-operative marketing is so efficiently organised that the produce of all members is channelled through the marketing society.

65. Production, processing, storage and marketing should be treated as an integrated whole if the interest of the producer, especially the middle and small cultivators, have to be safeguarded against exploitation by the trader or miller or money-lender. The organisation best suited to achieve this object is a network of co-operative societies specially constituted for the purpose of processing, storage and marketing of rice. In a region of planned development, co-operation is an instrument, which while retaining the advantages of decentralisation and local initiative, will yet serve willingly and readily the over-all purpose and directives of the plan envisaged. It is an inevitable planned economic action in democracy. But, as observed in the Credit Survey Report, most reforms of the co-operative movement, attempted or effected, have been in the nature of inevitably futile attempts to combine the weak against the strong in conditions in which the weak have had no chance. The arena was cleared for a fight between the weak and the strong with the rules of the game heavily weighted in favour of the strong. The first task is to rectify this position. Not only State guidance and State aid but also State partnership with Co-operatives in Credit, processing, marketing, etc., were therefore recommended. (Pages 376—377).

66. Today the part which the co-operatives play in processing of rice is not appreciable. Even the little business that flourished before the war became virtually extinguished during the war period by the operation of mills. Without sufficient financial backing and organization co-operative effort cannot succeed. The progressive organization on a co-operative basis, of processing and marketing through the promotion of co-operative institutions of the appropriate type with the needed financial, administrative and technical assistance from the State, and the development of storage and warehousing through State-partnered organizations at the All India and State levels and at other levels, is therefore, envisaged in the Credit Survey Report and the Scheme has been fully endorsed at Ministerial level by both the Central and State Governments.

67. The processing of rice through co-operatives is not a novel feature in India. But attempts at development of hand-pounding as

an organized industry have been feeble and spasmodic and in any case, the endeavours hitherto made could not withstand the powerful milling or trading interests. The rice-consuming areas in the country were once very largely fed by hand-pounded rice. It was only the small fraction of import from abroad of rice to meet the requirements of the deficit States in India, particularly in the West Coast, that formed the bulk of the milled rice in the country. Even in the matter of imports, grain merchants used to get down Rangoon or Akyab paddy which was in a large measure processed within the area of consumption by hand-pounding. The consumers, preference throughout India was in favour of hand-pounded rice until in recent times the higher class in the urban areas became accustomed to finely polished white milled rice. Even today, it is clear from the evidence recorded by the Committee that in the rural areas of most of the rice producing States, people still prefer hand-pounded rice. This is also proved by the survival of the hand-pounding industry to the extent of nearly 65 per cent of the production. Even among others it has been stated before the Committee that except for the so-called higher classes living in cities and towns and to whom rice forms but one of the items of many dishes which they can command, the common man would still like to be given hand-pounded rice. Unfortunately, such rice is not available in adequate measure in the market every-where even though he may be willing to pay an equal price for such rice. The poorer section of the people are attracted more by the cheapness of milled rice than any other consideration, although in some cases the labour class in highly industrialised areas entertain a feeling that what is good for the higher class people in cities should be equally good for them. Normally, they would prefer hand-pounded rice if available in the market and if it can be had for the same price as for milled rice.

68. In Madhya Pradesh, Bihar, Orissa, Bombay and even in Madras and Andhra, attempts are being made by social workers of the All India Khadi and Village Industries Board and the State Co-operative Departments to organise co-operatives for processing and marketing of rice. But these have so far been not on any big scale. There are nearly 148 societies organized by the Board within the past few months. The Board gives an average subsidy of annas six per maund of paddy hand-pounded, and half the cost of implements. Mention may here be made about the scheme adopted by the Andhra State for the organization of Co-operative hand-pounding centres (Appendix III). In Andhra and Assam, the States have agreed to purchase for their departments rice from these hand-pounding centres.

69. In full recognition of the need for re-organising this village industry on a scale and in a manner calculated to promote rural economy and relieve unemployment and under-employment, the Central and State Governments have decided to take steps to implement the integrated scheme proposed by the Rural Credit Survey Committee in the matter of processing, and marketing of agricultural commodities including rice. While so doing, emphasis should naturally fall on the organization of State partnered co-operative societies for the hand-pounding of rice alongside the provision of facilities for storage and marketing. For them, the large section of the population

in India with rice as their staple food could be assured of a more nutritious and wholesome diet than that of machine-milled polished rice, and this would promote the health of the nation.

70. In this connection, it should be borne in mind that the object in view would be defeated if the co-operative societies undertaking the processing of rice were to adopt machine-milling method instead of hand-pounding. It should certainly not be the idea that the Society should merely take the place of the present millowners and establish hullers or shellers thus denying the much needed relief to large-scale unemployment and under-employment in rural areas, and perpetuating the supply of polished rice shed of its nutritional element. The primary aim should be to establish State-partnered Societies to organize the hand-pounding industry on a large scale throughout the country with a view to employ as many of the rural unemployed population as possible, and to provide for that purpose necessary finance and storage facilities and to do the marketing as part of an integrated scheme. If a few prominent men, mostly traders and the present rice millowners or grain merchants were to form themselves into a Co-operative Society and to transfer to the society the ownership and working of some of the existing mills the sponsors of such an undertaking might claim it to be classified as a co-operative processing society for purpose of securing all the concessions and exemptions that will normally be allowed to a co-operative concern. But essentially, this will be a fraud on co-operation and would virtually defeat the purpose for which the co-operative scheme of processing, storage and marketing has been designed. It is in this sphere that perhaps political pressure from interested quarters is most likely and has to be sternly resisted. Even the acquisition of any existing plant by a State-partnered society, under circumstances specially approved by the Government, should be subject to conditions consistent with the object in view.

71. In preparing schemes for the Second Five Year Plan, it would be useful if the State Governments were to work out an immediate programme for the reorganization of the hand-pounding industry providing also for storage, and marketing facilities.

72. As regards planned co-ordination and financial provision at the all-India level, a broad division of functions has been proposed, under which the Reserve Bank of India will look after the credit programme and the Government of India will take care of the other parts of the economic programme, the main responsibility in either case resting with the State Governments. It is proposed that in conjunction with the State Governments, the Ministry of Food and Agriculture will be institutionally linked with the development of co-operative processing and co-operative marketing on a nation-wide scale. The link will be provided by a body known as the National Co-operative Development and Warehousing Board. This Board will from its National Co-operative Development Fund make long term loans to the State Governments to enable the latter to participate in the share capital of Co-operative societies undertaking such activities as processing, marketing etc. The responsibility for strengthening the administration, for providing the necessary technical services and generally for implementing a planned programme in respect of the development of co-operative processing, co-operative

marketing, etc., will of course, primarily rest with the State Governments. Co-operative Societies for processing and marketing, etc., will be organised in conformity with a plan drawn up by the State Governments in conjuction with National Co-operative Development and Warehousing Board. The organization of the societies will be on the basis of major State partnership. Trained technical personnel for these purposes should be provided by the State Government. The programme should be vigorously pursued but to start with, it has been suggested that societies should be organised at selected places, after adequate consideration and preparation with a view to success being assured at the initial stage of development. It is necessary to ensure by positive State supervision that every processing or marketing society at the primary level should be so composed and organised and its affairs so conducted that the medium cultivator certainly, the smaller cultivator wherever possible, is effectively represented in the organization, and their interests adequately looked after by those in charge of it. It has also been recommended that the State Government should take steps to license all plants, factories and mills, other than at the cottage industry level engaged in the processing of agricultural commodities or related activities and meanwhile promote as soon as possible such legislation as may be necessary for the purpose. Before issuing a licence for a new plant, factory or mill, in any particular area, Government should ascertain whether any existing co-operative society or one likely to be formed is both willing and in a position to take up the work. In that event the licence should be issued to the Society and not to a private party.

73. These proposals were scrutinised and generally accepted at a Conference held at New Delhi by the Union Minister of Food & Agriculture with the State Ministers for co-operation, on the 16th April 1955. An integrated scheme of Co-operative Credit combined with processing and marketing on Co-operative lines will be the surest way of re-organising the hand-pounding industry so as to fulfil the national purpose of relieving rural unemployment or providing subsidiary occupations to a vast section of the under-employed and at the same time ensuring the supply of rice of better nutritional value and on commercial scale.

74. Relevant extracts from the All India Rural Credit Survey Report are given in Appendix VIII.

75. The organization of Co-operative Societies for hand-pounding will require special attention on the part of the State Governments to expedite the work. The Committee would suggest that for this purpose there should be a special agency under the State Co-operative Department to look after this work exclusively.

76. In order to ensure the Central Government's policy on this subject being enforced speedily and effectively, the Committee suggests that it will be helpful both to the Central and State Governments to appoint a Central Special Agency to act as liaison.

CHAPTER X

Nutrition

77. The nutritive value of rice is a subject of great importance as rice is the staple food of a large proportion of the population in this country. According to diet surveys carried out in different rice eating areas in India, rice supplies 70 to 80 per cent of the calories in the diet of poor people. Rice forming such a large proportion of the diet of the people is naturally the most important source of protein, minerals and vitamins of B complex in the diet. The most important vitamin present in rice is vitamin B1, *i.e.*, thiamine. Deficiency of thiamine produces beri beri. Beri beri is a vitamin deficiency disease and has been associated with the consumption of milled rice. It has been shown that beri beri could be prevented by replacing milled rice by husked rice or under-milled rice. In countries where milled rice is used, attempts have recently been made to add, in the form of a coating to the rice grain, thiamine equivalent to the quantity removed in the process of milling so as to enrich the rice grain again in order that the consumption of such rice would not lead to deficiency diseases. Such enriched rice has been tried in Malaya and the Philippines. The Food Fortification Sub-Committee of the Indian Council of Medical Research (1953) have reviewed the position as regards the enrichment of rice in this country and come to the conclusion that in view of the efforts made by the Government of India to produce under-milled rice there was no necessity artificially to enrich the rice produced in the country as under-milled rice was a sufficiently good source of thiamine.

78. The Famine Enquiry Commission in their final report (1945) had emphasised the fact that control of the quality of foods in the broadest sense of the term is an essential part of a progressive food policy which has as its objective the improvement of nutrition. The Food and Nutrition Board of the National Research Council in the United States has been concerned with the improvement of white (fully milled) rice from a nutritional standpoint and proposed for consideration the development and marketing of unpolished rice. In India, both for the conservation of the foodgrains and for retaining the nutritive value of rice, the production of unpolished and under-milled rice has been preferred and general directives banning polishing and restricting the degree of milling have been issued. It has, however, been found difficult to lay down a standard for the degree of under-milling and the difficulty of fixing a controllable standard was reflected in the production of varying qualities of rice from brown rice (husk removed but without any milling) mixed with a not inconsiderable percentage of paddy grains to fully milled rice. Attempts have been made to fix the thiamine content to indicate the degree of under-milling. The Nutrition Committee of the Food and Agricultural Organisation of the United Nations at their meeting held in February 1948, at Baguio, Philippines, suggested a thiamine

content of 1·8 microgrammes per gram of whole rice. Later it was found that it was difficult to stick to this level as there were many difficulties experienced in the milling process. The Committee, therefore, recommended that a thiamine content of 1·5 microgrammes of thiamine per gram of milled rice be accepted as a minimum with the proviso that when improved milling and processing of rice permit, the higher level may be adopted. Taking into consideration all the factors, it is considered that the thiamine content must be the index of the nutritional quality of rice. It is, however, necessary to develop a simple and convenient method for routine thiamine estimation of rice to enable the miller to control the degree of milling as at present there was no alternative to the relatively complicated methods such as the Thiochrome Test and microbiological tests which require a long time and for which expensive equipment is required and which could be carried out only in well-equipped nutrition research laboratories. These methods cannot serve as the control methods in milling of rice. The Indian Council of Medical Research have recently undertaken study of the vitamin contents of pure bred strains of cereals and pulses in the country and from the data so far available it is found that the thiamine content of husked rice of different varieties varies considerably from 2·2 to 4·5 microgrammes per gram. In the process of milling there is a considerable loss of thiamine. If the retention of 1·8 microgrammes per gram could be expected in the grain of a variety which is rich in thiamine, *i.e.* about 4·5 microgrammes per gram, it is evident that the variety which is low in its thiamine content (2·2 microgrammes) could not be expected to retain 1·8 microgrammes per gram of thiamine after it is milled. It is, therefore, difficult to lay down at the present moment any specific value for the thiamine content of under-milled rice but it would be safe to keep in view the value of 1·5 microgrammes per gram of rice in laying down the degree of milling to be allowed. The various factors involved in the process of milling have been described below.

79. The paddy grain has a husk which is about 24 per cent in weight of the total grain. This husk is removed as a first step in milling. The husk injures the membrane of the alimentary canal and causes digestive disturbances. In any rice, therefore, the presence of husk should be totally eliminated. The rice grain after it is husked or brown rice (bagad) as it is called consists of three parts—(1) germ or embryo, (2) outer layer or pericarp and (3) inner starchy kernel or endosperm. A diagram of the rice grain showing the component parts is given in Appendix IX. In fully milled rice both the germ and the pericarp are lost but in hand-pounding or under-milling 50 to 70 per cent of the pericarp is retained. It is the outer layer or pericarp and the scutellum which contains most the thiamine and relatively larger quantities of protein and minerals. In the process of complete milling 75 per cent of thiamine, about 10 per cent of protein and a portion of mineral contents are lost. If thiamine was the only criterion as regards the food value of rice, then brown or husked rice would represent the ideal. Such husked rice, however, deteriorates very rapidly in storage, the appearance is unattractive, the rice does not cook properly and is difficult to digest giving cause to digestive disturbances. It has been found that it is necessary to give a certain

degree of milling so that the rice produced is an acceptable product, could store well for a limited period and is also digested without difficulty. The Ministry of Food and Agriculture had this question examined thoroughly and considered removal of 3 to 4 per cent of bran necessary. The Committee discussed this problem with a number of nutrition experts and also persons responsible for the administrative control during the ration period. Rice milled upto 5 per cent removal of bran should represent a product which would be acceptable for consumption throughout the country without any objection and also contains the required quantity of thiamine. It was also found necessary to lay down that at least 3 per cent removal of bran was necessary as otherwise there would be a repetition of the tendency to produce bagad rice.

80. At the beginning of this century (1907) Braddon showed by a painstaking epidemiological enquiry that those who eat parboiled rice usually escape beri beri. In a number of early beri beri experiments it was shown that the disease could be prevented or eliminated by replacing raw milled rice by parboiled rice. Dr. Aykroyd showed that parboiled rice retained a considerable proportion of its thiamine content even with a higher degree of milling. Parboiling is a process which has been used in this country to a large extent for centuries. At present about 57 per cent of the total rice produced in this country is parboiled. In this process the paddy is steeped in water for some time, and steamed once or twice and then dried in the sun. The dried paddy is milled. The process of parboiling of rice has been found to retain a considerable quantity of thiamine present in the pericarp of the grain even after the rice is milled to the normal extent. This has been explained to be due partly to infiltration of vitamin B1 and partly due to the fixation of the scutellum and germ to the endosperm so that in the process of milling these portions containing the larger proportion of thiamine are not removed from the rice grain but form a part of it. However, the the protein and minerals in milling of parboiled rice are reduced as in raw rice. Even with parboiled rice there is some lowering of value on milling and under-milled parboiled rice is preferable to highly milled parboiled rice from the standpoint of nutrition. In the parboiling of rice, drying is most important to reduce the moisture content as much as possible, or the rice produced would smell or be discoloured.

81. There is another method of parboiling of rice known as the 'Sela' process. In this process, the soaked paddy is roasted in sand, on the open fire, in place of its being steamed and then dried in the sun.

82. The Ministry of Food and Agriculture arranged for some experiments to be carried out for the standardisation of the parboiling process and it has been found that there is sufficient scope for improvement in the parboiling process. One of the main drawbacks in producing a standardised product is the uncertainty of weather conditions during sun-drying. A mechanical dryer would be advantageous. The Central Food Technological Research Institute, Mysore, has been conducting research on these lines. The conversion process which has been developed in the

U.S.A. is a fully mechanised and controlled form of the parboiling method. So also is the 'Malek' process of parboiling. The rice obtained by these processes is of a high quality and there is no reason why by improving the present methods of parboiling in the country parboiled rice of good and uniform quality should not be produced in India. The circular of the Ministry of Food and Agriculture on the correct method of cooking of rice is given in Appendix X.

83. It would be seen from what has been described above that hand-pounding as such has no special advantage in the production of rice, from the nutrition point of view, but it is the degree of milling that is important. In the hand-pounding process, it is difficult to control precisely the degree of removal of the bran but at the same time there is a natural barrier to excessive removal of the bran due to the labour and cost involved. In practice, therefore, common hand-pounded rice, being under-milled, is more nutritive than common milled rice which is highly milled. In a regular rice mill, of the sheller type, it is possible to regulate the degree of removal of the bran. In the huller type of rice mill, it is not possible to do so and the bran gets mixed up with powdered husk and the bran cannot, therefore, be used as cattle-feed, as such bran is likely to lead to digestive disturbance in the animal. The bran obtained in the sheller mills could be used for both human and animal food. The bran obtained in the first stage of hand-pounding by the dhenki or the pestle and mortar is also mixed with husk and not suitable for cattle-feed. But the bran obtained in later stages could be used as cattle-feed.

84. The words 'milling and polishing' have been used rather loosely when dealing with the question of rice. Polishing really means the process by which fully milled rice is given a bright glossy appearance by the use of materials such as talc, oils and other polishing powders. Some polishing powders which were used by the rice trade are harmful to the human body. In general, the use of polishing powder may be regarded as an unnecessary and sometimes objectionable refinement.

There already exists a ban on the polishing of rice in this country and there is no reason why the ban should not continue. As regards milling, the term is presumed to mean removal of bran from husked rice and the degree of milling refers to the percentage of bran so removed.

85. Rice is an important staple food. It is necessary to utilise, to the maximum extent, all the thiamine and other nutrients that are contained in it. By under-milling, it is possible to retain a part of vitamin B1 and other minerals. It has, however, been found that all these efforts of conserving the nutrients would be of no avail, if rice was allowed to be washed repeatedly with large quantities of water as is usually done. In the washing process about 60 per cent of the thiamine content is lost along with other nutrients. Forty per cent of this loss takes place in the first washing itself. If the process of washing before cooking is to be cut out, the rice produced must be clean, free from impurities and ready for being cooked.

86. The condition of the rice mills must be hygienic. Some of the rice mills which the Committee have seen are not so. It is necessary that rice is produced under hygenic conditions and the relevant provisions of the Factories Act must be properly enforced.

87. It is necessary that hand-pounded of under-milled rice is distributed in a short period of time, say 3 to 4 months. Otherwise it is likely to become rancid and also infested with insect pests. It is, therefore, desirable to provide a dry storage space for hand-pounded rice.

88. It is considered that in order to ensure supply of hand-pounded or under-milled rice, it is necessary to lay down a specification for rice. This could be done by the Central Committee for Food Standards set up under the Prevention of Adulteration of Foodstuffs Act, 1954. If such a specification is laid down under this Act, then it would be easy for the State Governments to control the quality of rice as produced and as it enters the markets. Any person producing rice which does not conform to this specification or putting it for sale could be prosecuted under this Act.

89. As regards the degree of milling the Committee's recommendation is that milling of rice in the country should be restricted to 5 per cent removal of the bran with a minimum of 3 per cent. This restriction should not, however, apply to production of rice for export to foreign markets; that rice should conform to the quality required by the purchasing country. But the restriction should apply to any rice imported into India from foreign countries.

CHAPTER XI

SUMMARY OF RECOMMENDATIONS

(1) Licensing of all types of power driven rice mills, and recognised hand-pounding centres organised as co-operative societies or by recognised institutions and social workers or by trade engaged in producing hand-pounded rice working on factory scale, should be immediately introduced in all States under the Essential Commodities Act 1955, where this has not already been done under a State Act. A census should be taken by the State Governments of all existing rice mills.

(2) No licences for new rice mills or rice milling in combined mills should be granted. If, however, a new mill is considered by the local Government to be absolutely essential in the public interests in special circumstances, for example, in emergencies, the licence should be given to the required number of the smallest unit managed either by the Government or by Co-operative Societies as Government may decide. The decision in this matter should be taken in each case at State Government level.

(3) No additional capacity to any of the existing rice mills should be allowed.

(4) No rice mill should be permitted to work for more than six hours a day, the object being that the existing over-all production of the rice mills should not only not be increased, but should be decreased.

(5) Immediate action should be taken to eliminate small huller machines operated with one or two hullers; similarly rice hullers working in combination such as pumping out or lifting water for agricultural or other purposes should be prohibited. In no case should the licence of any such small huller machine be renewed to work after 31st December 1956 and the Government should take suitable steps, where necessary, for example, in the case of displaced persons, for rehabilitating owners of husking machines in some alternative employment.

(6) A cess at -/6/- per maund of paddy milled should be imposed on all rice mills and the proceeds of the cess should be utilised for organising the hand-pounding industry, for research to improve hand-pounding implements and for a subsidy to hand-pounded rice. Necessary legislation should be made for the imposition of cess on rice mills.

(7) The existing average subsidy of -/6/- per maund of paddy hand-pounded should be increased to -/8/- per maund of paddy. The subsidy should be granted through recognised hand-pounding

centres organised as co-operative societies or by recognised institutions and social workers (wherever the price of the hand-pounded rice is higher than milled rice). The subsidy should be for a specified period of say five years, after which the position should be reviewed by the Government.

Individuals engaged in producing hand-pounded rice and certified by the All-India Khadi and Village Industries Commission may be allowed concessions in the form of easy credit and implements at subsidised rates.

(8) The hand-pounded rice produced at hand-pounding centres certified by the All-India Khadi & Village Industries Commission should be exempted from sales tax in States where rice is subjected to sales tax. The existing rules should be amended accordingly.

(9) State Government should purchase only hand-pounded rice, preferably from Government subsidised hand-pounding centres where they exist for their requirements for jails, hospitals, Government hostels, the railways, the army, the police, etc. Government should issue a directive to all Government aided and controlled concerns, institutions and canteens (such as Railway Canteens) to purchase only hand-pounded rice, preferably from Government subsidised hand-pounding centres where they exist.

(10) Each State Government should immediately formulate a programme for the speedy organization of hand-pounding for home consumption and at centres for sale, so as to cover within the shortest possible time the milling capacity released by the proposed closure of small huller machines, in order that the supply position of rice is ensured.

Hand-pounding industry should be further organised in other areas also for improving the employment position and for producing the supplies required in those areas so as to replace production by the rice mills. Each State Government should draw a five year phased programme on the lines indicated in this report, for the speedy organisation and development of the hand-pounding industry, with a view to the employment of the maximum number possible of the unemployed or under-employed rural labour, and for the elimination of rice mills in the States within that period, regard being had to the maintenance of normal supplies of rice to the community. Each State Government should review this five year plan every year and revise it with reference to the progress achieved in the previous years and the target to be achieved.

(11) The programme of State Governments for speedy organisation of the hand-pounding industry should proceed on a co-operative basis and should follow the recommendations made by the Reserve Bank of India in their Rural Credit Survey Report regarding co-operative processing and marketing of village produce. At the end of 3 years there should be a review by the Government of India of the progress made by each State in the implementation of these recommendations, so far as hand-pounding of rice is concerned.

(12) All State Governments, by issuing orders in exercise of powers conferred on them by the Essential Commodities Act, 1955, should restrict the milling of rice by rice mills to five per cent with a minimum milling of three per cent.

(13) Exemption from the restriction under item (12) should be granted for rice produced for the export market in which case the milling should be adjusted to the requirements of the purchasing country. Such production should be with the special permission of the Government of India and under their close supervision.

(14) In the case of any import of rice, the rice of the same standard of milling as stated above, should be imported as far as possible.

(15) Any rice mills which may be retained to meet essential needs for production, for export, or for any other reason, should be only of the sheller type or of the combined sheller-huller type.

(16) The Essential Commodities Act, 1955, and if necessary, the Constitution should be suitably amended to enable the State Governments (i) to issue orders under items (2) to (6) with the object of creating work for the rural unemployed, (ii) to restrict milling by rice mills (item 12) with the object of retaining the nutritive value of milled rice, and (iii) to convert any huller mills into sheller mills or combined sheller-huller mills.

(17) Publicity and propaganda should be made through schools, colleges, the Community Development and National Extension Blocks, Women's organisations, the Red Cross, the Cinema, the Radio, the Stage and literature:

(i) to emphasise the nutritive value of under-milled rice and hand-pounded rice and induce consumers to eat hand-pounded rice;

(ii) to emphasise the greater potentiality of the hand-pounding industry to provide employment;

(iii) to discourage the present practice of washing and cooking rice by which its nutritive value is lost and to propagate the correct method for retaining it in cooked rice.

(18) Research should be conducted for evolving simpler and better hand-pounding implements with a view to increasing their output and at the same time making them easier to handle.

(19) Each State Government should have a special agency under its Co-operative Department to organise co-operative societies as suggested in these recommendations.

(20) The Central Government should appoint a special agency to act as liaison between them and the State Government with a view to the enforcement of the Government of India's policy in those matters.

CHAPTER XII

Pulse Milling

1. The Government of India by Resolution No. PY-I-608(5)/54 dated 8th January 1955 extended the terms of reference of the Rice Milling Committee to pulse milling, on the same lines. The Resolution is quoted below:—

> "The question of pulse milling has also been engaging the attention of the Government of India for some time past and it has now been decided to extend the scope of investigation of the Rice Milling Committee and to ask the Committee to make a similar enquiry in regard to pulse milling and submit their recommendations to Government."

2. Out of a total production of about ten million tons of pulses, Uttar Pradesh produced about three million tons, Bihar, Madhya Pradesh, Punjab each about one million tons, Hyderabad and Bombay each 0·6 million tons, Rajasthan, Madhya Bharat, Pepsu and West Bengal each about 0·4 million tons. The chief dal exporting States are Uttar Pradesh, Bihar, Madhya Pradesh, Punjab, Madhya Bharat, Rajasthan and Hyderabad.

3. The Committee's investigation into pulse milling proceeded on the same lines as rice milling, the problems involved were similar and were set against the same factual background as presented in the foregoing chapters relating to rice milling. Gram was one of the commodities controlled during the days of food control and to that extent pulse milling by hand chakkies received a set back in that period like hand-pounding of rice. The employment potential in pulse-milling by hand chakkies, although considerable, is not so great as in hand-pounding of rice because in the first place the total production of pulse in India is much less *viz.*, about ten million tons as against twenty seven million tons of rice, and in the second place in most pulse growing areas pulse-milling for home consumption in the villages is, as a rule, already done by hand chakkies. Power driven chakkies for pulse milling have not yet penetrated into the rural areas to the same extent as power driven hullers of rice. The Committee has not found evidence that the nutritional aspect arises in the case of pulse-milling as in the case of rice-milling. Subject to this difference, the general pattern of hand chakki *vis-a-vis* power driven chakkies and dal mills is more or less the same as hand-pounding of rice *vis-a-vis* rice mills.

4. Machine milling of pulses may be either by the bigger type automatic dal mills, or by the smaller type roller mills fitted with elevators, or by power driven chakkies. The bigger type automatic dal mills operating in such areas as Hissar in the Punjab, Agra in U. P. or Bikaner in Rajasthan, have a daily output of about 100 mds. each, employing only about ten to fifteen labourers, being equipped with drying palnts and bins. A smaller type roller mill with an average daily output of 250 mds. is ordinarily fitted with an elevator, a

roller machine and a sheller, and employs from fifteen to twenty labourers. The function of the rolller is to crack and loosen the husk, and of the sheller is to split the pulse and completely remove the husk. As an alternative to the sheller, a chekki is used for the same purpose. Sometimes, only a sheller or a chakki is used without a roller, yielding a lesser output. But a roller ensures better dehusking and less breakages. For making Tur or Arahar dal, the whole grains are first put through the roller, then watered, oiled and dried, and then passed through the chakki or sheller. A yellow colour is then given to the dal to make it look better. For making tur dal, a sheller is more suitable than a chakki. For making gram dal, the whole grain is first passed through the roller, then watered and dried, and then put through the sheller or the chakki two or three times. For milling mung, urad and masur, no watering or oiling is necessary and only passing through the roller completes the process because the grains are soft and the husks come out easily. Soapstone powder is used to make the dal look better. The cost of machinery for the bigger type automatic dal mill with a daily output of 1000 maunds, is estimated at Rs. 80,000 and of a roller mill equipped with elevator Rs. 20,000/-.

5. By using a hand chakki a woman labourer can by working 8 hours a day, produce 3 maunds of unpolished dal or 1-1|2 maunds of polished dal, thereby earning a wage of Re. 1|- to Rs. 1|8|-. The following table gives the compartive recovery of dal by milling and by hand chakkies, according to the information which the Committee collected during its enquiry.

Variety of Pulse.	Percentage of recovery in mill	Percentage of recovery in hand chakki
Gram	77·5	75·0
Tur	70·0	67·7
Mung polished . . .	62·5	62·5
Mung unpolished (with husk) .	85·0	87·0
Urad polished . . .	62·5	62·5
Urad unpolished (with husk) .	85·0	87·0
Masur	80·0	80·0

The cost of milling per maund of finished dal is on an average 4 annas by the bigger type automatic dal mills, 6 annas to 8 annas by the roller dal mills, and 12 annas to 1 Rupee by hand chakkis for polished dal. But the cost of milling of unpolished mung or urad dal (with husks) is much less and the recovery is much more in hand chakkies than in dal mills. The husks of mung and urad dal being edible, many consumers prefer to eat mung and urad dal with husks produced by hand-chakkies because of its cheapness. The dal mills generally do not produce unpolished mung and urad with husks, and the produce of these varieties by the hand chakkies therefore a good market. Except in the big dal exporting centres, most dal mills were combined with either rice milling or flour milling or oil crushing.

6. As already observed, in the pulse producing areas, the pulse is generally milled with hand chakkies for home consumption in villages, and the dal mills cater to urban areas and, in exporting

States, produce dal for export. In urban areas, the hand chakkies have mostly been pushed out by competition from the dal mills. In Amritsar city there was no hand chakki. In Kanpur, only a few families now make a living out of pulse milling by hand chakkies although ten years ago the entire city was fed by the produce of hand chakkies. At Dinapur (Bihar), out of 500 hand chakkies which existed ten years ago, only 40 now remain. On the other hand, at Indore and Jaipur more than 50 per cent. of the dal consumed is milled by hand chakkies, mainly consisting of unpolished mung and urad varieties. At Indore, besides these varieties, the hand chakkies also produced gram dal and polished mung and urad which sell cheaper than those produced by dal mills.

7. As regards quality, it was pointed out to the Committee at Nagpur and at Kanpur that the Tur dal produced by hand chakkies tasted beter than that produced by dal mills, because by hand chakkies the process of oiling and drying the grains and then putting them into the chakkies was repeated several times.

8. The dal traders at many places of Kanpur, Dinapur, Ujjain and Indore expressed to the Committee that if the dal mills were abolished, sufficient labour would be forthcoming for production of dal by hand chakkies on a commercial scale and the traders would come forward to organise them. But at Gwalior doubts were expressed on this point. In Rajasthan and Punjab also, doubts were expressed whether labour would be available to produce dal by hand chakkies to maintain the export of dal if the dal mills were abolished.

9. The power driven chakkies for milling pulses have not, as already observed, penetrated seriously into the rural areas as in the case of hullers of rice. Except for these points of difference, the Committee's recommendations with regard to pulse milling are more or less on the same lines as rice milling. A summary of the Committee's recommendations on pulse milling is given below:—

10. Summary of Recommendations on Pulse Milling.

(1) Licensing of power driven dal mills should be immediately introduced in all States.

(2) No licences for new dal mills should be granted.

(3) No additional capacity should be allowed to existing dal mills.

(4) No dal mills should be permitted to work for more than six hours a day, the object being that the existing over-all production of the dal mills should not only not be increased but should be decreased.

(5) A cess at the rate of 6 annas per maund of whole pulses (not dal) milled should be imposed on all dal mills and the proceeds of the cess should be utilised for organising pulse milling by hand chakkies, for research to improve the hand chakkies, and for a subsidy to dal producers by hand chakkis. Necessary legislation should be made for imposition of cess on dal mills.

(6) A subsidy of 8 annas per maund of whole pulse milled by hand chakkies should be given through recognised hand chakkies centres organised as Cooperative Societies or by recognised institutions and social workers certified

by the All-India Khadi & Village Industries Commission, wherever the price of hand chakki dal is higher than dal-milled by dal mills. The subsidy should be for a specified period of three years, at the end of which the position should be reviewed by the Government. Individuals engaged in producing hand chakki dal and certified by the State Khadi and Village Industries Commission may be allowed concessions in the form of easy credit and implements at subsidised rates.

(7) Dal milled by hand chakkies should be exempted from sales tax in States where dal is subject to sales tax. The existing rules should be amended accordingly.

(8) The State Governments should purchase only dal produced by hand chakkies preferably from Government subsidised hand chakki centres where they exist, for their requirements for jails, hospitals, Government hostels, the railways, the army, the police, etc. The State Governments should issue a directive to all Government aided and controlled concerns, institutions and canteens (such as railway canteens) to purchase only dal produced by hand chakkies.

(9) Each State Government should draw up a three year programme for speedy organisation of production of dal by hand chakkies and replacement of all dal mills within that period. For that purpose each State Government should each year formulate a programme for developing the hand chakki industry and correspondingly reducing the production by dal mills.

(10) The programme of the State Government for speedy organisation of pulse milling with hand chakkies should proceed on a Co-operative basis.

(11) Research should be undertaken with financial assistance from Government evolving simple and better type hand chakkies with a view to increasing their output and at the same time to making it easier to handle.

REPORT OF THE RICE MILLING COMMITTEE

Note by Dr. D. V. Karmarkar

It has not been possible for me to agree to some of the recommendations of the Committee.

2. If the whole production of rice in the country is of under-milled quality specified by the Government at 5 per cent. removal of bran, then hand-pounded rice does not have any special nutritional advantages over under-milled rice. The nutritional quality of rice mainly depends on the degree of milling and if the rice is milled to a degree equal to that of hand-pounded rice, the nutritional qualities of the two types of rice are expected to be equal. In hand-pounded rice, it is not possible to regulate the degree of milling but the labour involved sets a barrier to overmilling. If one is not careful hand-pounding could be continued increasing the percentage of broken grains along with an increase in the degree of milling. In the case of sheller type of rice mills, it is possible to regulate the degree of milling to the extent required. The husking machine is no doubt a useful device to get rice out of paddy without much labour and time, but it is a wasteful process, as not only that more brokens are produced in the husking machine as compared to the sheller type mills, but also there is no control on the degree of milling and, moreover, the bran is useless even as a cattle-feed. In the case of parboiled rice, the husking machine is not so destructive and its discontinuance is recommended mainly for the creation of employment among the rural population.

3. While hand-pounding rice could be encouraged in the rural areas for use in homes and for general trade purposes limited to those areas, it cannot be said that hand-pounded rice could be useful as a commodity for inter-State trade in rice on a large scale. For such a trade, hand-pounding of rice would be uneconomical, as in hand pounding the proportion of brokens produced is more and brokens have not got the same trade value as whole rice. Naturally, therefore, the price of rice would be affected and this would have an adverse effect on the price which the grower would get for his paddy. In homes and rural areas brokens and bran could be used as the question of 'value' does not arise in such cases. It is difficult to get hand-pounded rice of uniform and standard quality. What is liked in the general trade is clean, whole and uniformly milled rice.

4. In the case of parboiled rice, the paddy is required to be steeped in water, steamed and then dried. When this process is done in the household or on a small scale, it is bound that there would be variations in the moisture content and appearance of the rice produced. The storage quality of the rice would also thereby be affected. It is only in the rice mills that the quality of rice produced could be controlled. It would be necessary to use rice mills for inter-State

trade in rice and also for export trade. Rice mills have a place of their own and it is, therefore, inadvisable to strive for the complete elimination of rice mills. This applies to a certain extent as regards pulse mills also.

5. Though the Committee has recommended the elimination of husking machines from the beginning of 1957, it appears unlikely that hand-pounding industry could be sufficiently developed by that time to take over the milling capacity vacated by the husking machines. It would be necessary to spread this programme of elimination of husking machines over a period of five years.

6. The hand-pounding kit has practically disappeared in many parts of the country. Hand-pounding work is considered by the labourers as something below their status. Formerly hand-pounding of rice for earning livelihood was mainly done by unattached, widowed and helpless women. The social order is fast changing and it does not seem likely that sufficient labour would be coming forth willingly for this work. Moreover, there is a general awakening in the country as regards scientific and technical development and the Indian agriculturist is very much appreciative of the technical advances, and he has become machine-minded. He is no longer in a mood to stick to primitive methods. At times he may be found to be more enthusiastic than the scientists or technicians themselves. The Khadi and Village Industries Board speak of improvements in the hand-pounding of rice but there is really no improvement in the actual condition of the appliances. They are trying to introduce stone chakki, prevalent in one part of the country, in other parts. Introduction of any new idea against the traditional usage is likely to require considerable time if at all the idea is accepted. Any improvement in the appliances would be in the direction of machanisation and any increase in production per man hour means proportionate reduction in the field of employment. With the maximum efforts, it seems unlikely that hand-pounding could be extended beyond the rural areas.

7. The Committee has recommended a cess of as.-/6/- per maund of paddy. The rice milling industry is not a highly organized one. It is also not working at considerable profits. Those millers who do only the milling of rice find it difficult to make both the ends meet. Only those millers who engage themselves in advance purchasing of paddy and then marketing the rice produced by them might be in a better condition. Moreover, the development of hand-pounding industry is ultimately expected to result in the gradual elimination of the mills and there does not appear to be any possibility of common production programme between the hand-pounding sector and the mill sector. In fact, the Committee has considered a target plan according to which, within five years, the rice mills are to be eliminated. In these circumstances, it does not seem proper that the rice milling industry should be made to pay cess of -/6/- per maund of paddy milled by them. The millers who purchase the paddy would make up for the cess by decreasing the price they would pay for the paddy and thus it would be the grower who would be affected while the miller could sell his rice at the normal rate. The gap between the prices of hand-pounding rice and milled rice would remain unaltered and there would not be any encouragement for the hand-pounded rice, as the subsidy of As. -/8/- per maund of paddy

proposed by the Committee would be insufficient to bridge the gap. Moreover, the present organised production of hand-pounded rice for the market is very small being limited to some pockets and some special types or varieties of rice. If hand-pounded rice is to be encouraged, then the Government should give a direct subsidy equal to or a little more than the difference in prices of the two commodities. The Government of India have been giving grants to the Khadi & Village Industries Board for subsidizing hand-pounding of rice for the last two or three years, but much headway could not be made because of the fact that the subsidy at As.-/6/- per maund was not sufficient to give encouragement for the production of hand-pounded rice. The imposition of cess and an insufficient subsidy would not bring out the desired result. There is bound to be a change in the price levels of hand-pounded rice and milled rice, as in the former case, the husking machines would be removed altogether and in the latter case the rice would be under-milled only. It may be that there might arise a position, as a result of giving effect to the recommendations of the Committee, that there would be no difference in price. In that case, no subsidy would be required to cover up the difference. Necessary assistance in getting hand-pounding equipment may have to be given.

APPENDIX I

COPY OF RESOLUTION NO. PY.I-608(5)/54, DATED 8TH OCTOBER, 1954 ISSUED BY THE MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA.

RESOLUTION

While the necessity of encouraging hand-pounding of rice is recognised, questions have been raised about the extent to which hand-pounding of rice could meet the needs of the country for conversion of paddy into rice. In these circumstances, it has become necessary to investigate the matter after collecting sufficient data. The Government of India have, therefore, decided to appoint a Committee with the following terms of reference:—

(i) To examine the working of the different types of rice milling now in vogue in the country from all relevant aspects such as technical, nutritional, consumers preference, economic and employment; and

(ii) To make recommendations as to the future policy that should be adopted and to indicate the administrative, financial and legislative measures which may be needed on the part of the Central and State Governments to give affect to them.

2. The Committee will consist of the following:—

Chairman

1. Shri C. P. Karunakara Menon.

Members

2. Shri G. Parameshwaran Pillai.
3. Shri I. U. Lakhia.
4. Shri Jhaverbhai Patel.
5. Shri Raojibhai N. Patel.
6. Deputy Secretary in-Charge of Cottage and Village Industries, Ministry of Commerce and Industry.
7. Shri N. M. Bardhan.

Member-Secretary

8. Dr. D. V. Karmarkar.

3. The Headquarters of the Committee will be at New Delhi but in order to study the various problems falling within the scope of the enquiry, the Committee may visit such States as it may consider necessary.

4. The Committee will submit its report within a period of three months.

5. The Government of India trust that the State Governments and all other official and non-official bodies will give full co-operation in order to facilitate early completion of the enquiry by this Committee.

Ordered that a copy of this Resolution be communicated to all the State Governments, all Ministries of the Government of India, Cabinet Secretariat, Prime Minister's Secretariat, and Private Secretary to President, Planning Commission, the Comptroller and Auditor General of India, the Accountant General, Central Revenues, and the Deputy Accountant General, Food and Rehabilitation.

Ordered also that this Resolution be published in the Gazette of India, for general information.

(Sd.) R. S. KRISHNASWAMY,

Director General of Food and Joint Secy
to the Govt. of India.

COPY OF RESOLUTION NO. PY.I.-608(5)/54. DATED 8TH JANUARY, 1955 ISSUED BY THE MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI.

RESOLUTION

In Government of India, Ministry of Food and Agriculture Resolution No. PY.I-608(5)/54, dated the 8th October, 1954, a Committee was set up to examine the working of the Rice Milling from various aspects and to make recommendations as to the future policy that should be adopted.

2. The question of pulse milling has also been engaging the attention of the Government of India for some time past and it has now been decided to extend the scope of investigation of the Rice Milling Committee and to ask the Committee to make a similar enquiry in regard to pulse milling and submit their recommendations to Government.

3. It has also been decided that with immediate effect Shri N. M. Bardhan will act as Member-Secretary *vice* Dr. D. V. Karmarkar, who will continue as a member on the Committee.

Ordered that a copy of this Resolution be communicated to all the State Governments, all Ministries of the Government of India, Cabinet Secretariat, Prime Minister's Secretariat, the Private Secretary to President, Planning Commission, the Comptroller and Auditor General of India, the Accountant General, Central Revenues, and Deputy Accountant General, Food and Rehabilitation.

Ordered also that this Resolution be published in the Gazette of India, for general information.

(Sd.) R. S. KRISHNASWAMY,

Director General of Food and Joint Secy.
to the Government of India.

APPENDIX II

COPY OF LETTER NO. RMC/3/54, DATED 6TH NOVEMBER, 1954 FROM THE SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI TO ALL THE STATE GOVERNMENTS.

SUBJECT:—*Rice Milling Committee—Government of India.*

You are aware that the Government of India in their Resolution No. PY.I-608(5)/54, dated 8th October, 1954 constituted a Committee with the following terms of reference:—

(i) To examine the working of the different types of rice milling now in vogue in the country from all relevant aspects such as technical, nutritional, consumer preference, economic and employment; and

(ii) To make recommendations as to the future policy that should be adopted and to indicate the administrative, financial and legislative measures which may be needed on the part of the Central and State Governments to give effect to them.

A copy of this Resolution was forwarded to your Government direct by the Government of India.

2. The Committee has started its work and will be touring the States in due course. The exact dates when the Committee will tour your State will be intimated to you separately. In the meantime the Committee would be grateful if your Government will communicate to the Committee its own views and suggestions on the subject of the Committee's enquiry.

3. With a view to encourage the hand-pounding of rice, the Committee would appreciate your Government's views as to (1) whether they think it necessary to exercise any control over production by mills and husking machines and if so what measures they would propose for the purpose of such control, (2) what is their view regarding protective measures like reservation of spheres of production and imposition of a cess on the mill sector and (3) the extent to which production by hand-pounding can meet the total rice requirements of your State and what measures your Government propose in this connection for organisation and expansion of hand-pounding.

4. Information is requested also on the following points:—

(a) Different types of rice mills in the State (Hullers, Sheller, etc.) and the number under each type.

(b) The total number of persons employed in these rice mills in the State.

(c) Chief centres where hand-pounding is predominant as compared to rice milling.

(d) Total estimated output (i) by hand-pounding (pestle and mortar, chakkies and dhenkies), (ii) total output by mills and (iii) total output by husking machines.

(e) Percentage and normal recovery of rice from paddy by different milling processes and in hand-pounding.

5. The Committee will be obliged if your Government can suggest names of individuals or organisations who may have useful suggestions and may give evidence before the Committee. These will be invited by the Committee during its tour in the State.

6. It would be helpful to the Committee if you would kindly suggest the centres in your State which the Committee may usefully visit in connection with this enquiry.

7. It will avoid delay if your Government could kindly ask those individuals or organisations, who may be interested in this enquiry to communicate their views direct to the Committee.

8. It is requested that the information required may kindly be supplied to the Committee in a fortnight or as soon as possible.

APPENDIX III

NOTES ON STATES AND THE REPORTS OF STATE GOVERNMENTS

West Bengal

West Bengal is one of the largest rice producing centres in India with a total area of 10 million acres under paddy cultivation and a total production of 62 lakh tons of rice as seen from the statement furnished by the State Government.

The total production of rice in the State during 1952-53 was 40 lakh tons while in 1953-54, it seems to have gone up to 52·25 lakhs of tons. The consumption requirements at 13 ozs. per capita per day are estimated at 39·97 lakh tons. The highest production of rice among the districts in West Bengal is in Midnapur district followed by 24-Parganas, Burdwan, Birbhum, Bankura, Murshidabad, Hoogly, West Dinajpur, Jalpaiguri, Malda and other districts. Cultivation of rice is fairly widely spread in West Bengal. The three districts, Midnapur, 24-Parganas and Burdwan together account for over 45 per cent. of the area of production.

It is significant that 90 per cent. of the rice consumption in this area is parboiled rice. West Bengal, Bihar, Orissa and Travancore-Cochin are the only States where the percentage of parboiled rice exceeds 90 per cent. of the total production. It is entimated that 70 per cent. rice consumed in this State is produced by hand-pounding (Dhenkies). The quantity milled by rice mills and single hulling machines is in the proportion of 17 and 13 per cent. respectively.

According to the State authorities, the number of rice mills is 403 while the number of single hulling machines is roughly computed as above 5,000. The number of dhenkies used for hand-pounding is believed to be in the neighbourhood of 12 lakhs and these are employed up to only 50 per cent. of their capacity. These provide part-time occupation to nearly one million persons, mostly women for about six months in a year.

The cost of hand-pounding is said to be As. 12 more per maund than for milling in rice mills which makes the market price of hand-pounded rice dearer than milled rice by a rupee. This does not, however, affect the large number of consumer-producers who hand-pound their paddy in their own dhenki and by their own labour for home consumption. It is stated that the bigger rice mills are, since decontrol, driving the single hullers out of trade. It is also stated that hand-pounding of rice forms a useful subsidiary occupation to the under-employed agricultural labour population who have little work to do for about six months in the year during the off-season. It is regarded as very advantageous since the work can be done at home by women along with their other domestic duties. Most women, even of the poorer agricultural class in West Bengal, are said to be not accustomed to do out-door work excepting in their own fields. Rural West Bengal is a land of small un-remunerative holdings of only 3 acres per family. Agricultural unemployment or

under-employment is, therefore, a big problem and the important place, occupied by the hand-pounding industry—in the rural economy of the State, cannot be over-emphasised. Formerly hand-pounding appears to have been done by dhenki owners not only for their home consumption and for local trade but also for export to surplus areas. In addition the producers hand-pound for their own consumption and for trade. There is a class of professional hand-pounders to whom hand-pounding was the sole occupation for living. It is stated if no protection is given to the hand-pounding industry, the rice mills will completely replace it. The State Government considers that rice mills are necessary to feed larger industrial organisations because of the consumer's preference for milled rice and the need for keeping large stocks for storage. The State Government also considers the rice mills to be more dependable for ensuring supply in an emergency like flood or scarcity because they have enough storage space and are capable for bulk handling with speed and economy. The State Government, however, thinks that the existing capacity of the present number of big rice mills is enough and that no further expansion of their capacity or number is called for. From the administrative point of view, the State Government considers it necessary to restrict the rice mills and husking machines and to organise the hand-pounding industry so that it does not lose further ground. It is estimated that the existing dhenkies if allowed to work to full capacity, can hand-pound the entire requirements of the State, and provide subsidiary employment to one million more persons giving each of them an additional income of 100 rupees a year in the form of wages. The State Government are also considering proposals for starting Paddy Sale Societies to be financed under the Rural Credit Scheme of the Reserve Bank of India. They are also of the view that it should not be difficult to organise paddy processing by Co-operative Societies to work in co-ordination with the Paddy Societies and Paddy Sale Societies in order to enable them to compete with the rice mills.

It is noted that there are about 80,000 dhenkies in Burdwan district which work up to 50 per cent. of thier capacity. A special feature of this district is that hand-pounded rice sells at a price which is lower by one rupee per maund than milled rice. While there were only 36 husking machines in 1951, the number rose to 405 in 1954. Nadia is the only district in West Bengal without a rice mill and hand-pounded rice is still predominent in that district. It is stated that in Jalpaiguri the rice mill owners resort to the evil practice of forward purchase of standing paddy still in the field thereby denying the producers their legitimate price of paddy. In Burdwan district 80 per cent. of the local requirements of rice is met by hand-pounding.

13459/F.D.

COPY OF A LETTER No.————, DATED THE 15TH DECEMBER, 1954

FD/5C-2/54

FROM SHRI P. NAG, M.A., B.C.S., DEPUTY SECRETARY TO THE GOVERNMENT OF WEST BENGAL, DEPARTMENT OF FOOD, RELIEF AND SUPPLIES (FOOD BRANCH), 11A, FREE SCHOOL STREET, CALCUTTA-16 TO THE SECRETARY TO THE RICE MILLING COMMITEE, NEW DELHI.

SUBJECT:—*Rice Milling Committee—Government of India.*

With reference to your letter No. RMC/3/54, dated the 6th November, 1954 on the above subject, the views of the Government

of West Bengal on the points mentioned in para. 3 of the letter are given below:—

(1) The existing rice mills and husking machines do not produce more than ⅓rd of the total quantity of rice produced in the State. It is not considered desirable to interfere with the production by the existing mills and husking machines, because in some surplus districts the number of dhenkies is inadequate for meeting the local requirements and in emergencies like floods etc., the rice mills can be counted upon to produce rice and rush supply more promptly than dhenkies. Besides, if consumers are to depend entirely on hand-pounded rice, adequate storage godowns scattered all over the districts will be required involving large capital expenditure and equally large maintenance charges. For hand-pounded rice, loss in storage is likely to be more and storage accommodation will be a difficult problem. There are certain other factors also to be considered in this connection. India expects to resume export of rice to foreign markets in the near Future, and there being no demand for dhenki rice in foreign markets, mills should be en couraged to produce the right type of rice for export. Consumers' preference of a large labour population in West Bengal is also in favour of polished rice produced by the rice mills as against hand-pounded rice. Introduction of dhenki rice in the industrial areas, such as collieries and tea plantations, is likely to give rise to dissatisfaction among the labour population. The Government of West Bengal are, therefore, of the view that there should be no restriction on the production of the existing mills and husking machines up to their installed capacity. Such control as may however be necessary to maintain the quality and nutritional value of the rice produced by them should be exercised by Government. In order to ensure that the present proportion of milled and hand-pounded rice is not unduly disturbed, fresh licences for the installation of new rice mills or power-driven hullers should be ordinarily refused, unless there are very special circumstances justifying relaxation in this regard.

(2) (i) As already stated, the vast majority of the consumers in West Bengal still take hand-pounded rice, and if fresh licenses for the installation of rice mills or husking machines be ordinarily refused, no further protection is necessary for the dhenki industry. Territorial reservation of spheres of production, such as restricting consumption of milled rice solely to urban areas and hand-pounded rice to rural areas would, in the opinion of this Government, involve a major reversal of the present policy of decontrol, and the enforcement of such restriction would involve administrative difficulties and the maintenance of a costly Inspectorate for the purpose of elaborate and constant checking. Such reservation of spheres is also not a practicable proposition. In some districts, there are either no rice mills or only a few mills, and it is not worthwhile reserving any spheres for these mills. The rice mills in other parts generally cater to the needs of the industrial or urban areas or highly deficit rural areas and the large labour population. It will be extremely difficult to demarcate the spheres of production of these rice mills. If the export of rice by rice mills to deficit districts is stopped, paddy will have to be exported instead, as the gap is not likely to be filled by

export of dhenki rice and the export of paddy will lead to the wastage of wagons. The husking machines are scattered throughout the State and they cater to the needs of the local people. It is not, therefore, possible to reserve spheres for them.

Reservation of spheres of production to particular varieties of paddy to be milled or to be hand-pounded is also not a practicable proposition, because such a measure will involve a rigid check on the varieties of paddy to be purchased by rice mills for milling, which is not possible even with an elaborate administrative machinery.

(ii) Regarding the proposal for imposition of cess on the mill sector, as 70 per cent. of the total rice production is already done by hand-pounding process, no further protection in the form of such a levy is necessary. It should be remembered that the incidence of such cess will ultimately be passed on to the consumers in the shape of increased prices. Further, the imposition will present some difficulty and is likely to be evaded by the owners of husking machines. These machines usually husk the paddy of others, which is brought to them after boiling and drying and the licensees will try to evade the cess by not showing their entire production in their registers and returns.

The levy of a cess would, however, be justified on principle, if its object were to utilise the proceeds for strengthening the hand-pounding industry and putting it on a sound footing. In that case, the levy of the cess should be so regulated as to ensure that the bigger burden falls on the large organised mills.

3 (i) As already explained, although hand-pounded rice at present meets about 2/3rds of the State's requirements, it will not be possible to depend upon hand-pounded rice for meeting the entire needs of the State, and particularly those of the industrial areas. Apart from consumers' preference, which is in favour of milled rice, there is the difficulty of maintaining sufficient and regular supplies of dhenki rice to feed the large urban population which, it is felt, only the mills and power-driven husking machines can do.

(ii) As regards the organisation and expansion of the hand-pounding industry, this Government considers that in view of what has been said above, the question of further expansion does not arise. So far as the organisation of the industry is concerned, it is thought that the introduction of co-operative principles offers the best scope for putting the industry on a sound footing.

2. The information required under paragraph 4 is furnished in a separate statement enclosed with this letter.

(ENCLOSURE)

ESTIMATED FIGURES

(a) *Number of Rice Mills—*

(*i*) Huller type	388	
(*ii*) Sheller type	15	(Of these only 7 are purely Sheller type and 8 are Sheller and Huller combined).
TOTAL . .	403	

(b) *Total number of persons employed in these Rice Mills*—30884

(This figure is inclusive of permanent employees and also day labourers).

(c) *Chief Centres where hand-pounding is predominant.* —vide enclosed statement.

(d) *Total estimated out put (figures are approximate).*

(*i*) By hand-pounding	60	:	39 to 42
(*ii*) By Rice Mills	60	:	38 to 40
(*iii*) By Husking machines	60	:	38 to 40

N.B.—Recovery of perfectly clean and marketable boiled rice conforming to the standard quality generally liked by the people of this State from unclean raw paddy commonly available in the market is from 64 per cent. to 68 per cent. of such raw paddy. In addition approximately 2 per cent. brokens also is received.

The paddy of course generally contains 3 to 8 per cent. or even more refraction.

There is practically no difference in the recovery between Huller and Sheller Mills provided conditions of the paddy and the milling standard and the percentage of moisture retained in the rice are the same.

Dhenki rice generally gives an outturn of 67 to 70 per cent. of the paddy and this higher yield is entirely due to retention of very heavy moisture and impurities in the shape of bran, husk, etc. mixed with rice. Contrary to the common belief there is no material gain, only the consumer is cheated by the false figure of higher yield.

Hullers in this State are never used for producing Atap rice on account of heavy breakages if raw paddy is used.

Only Sheller type plants produce Atap rice in this State and the yield percentage for marketable quality is approximately 60 per cent. of the paddy and this loss in yield ratio is compensated by higher percentage of brokens received.

Re. (c) *List of centres where Hand Pounding is predominant*

1. West Dinajpur	.	All places except Hilli and Nayabazar.
2. Malda . . .	.	Gazole, Bamangola, Malda, Habibpur, Harishchandrapur.
3. Murshidabad . .	.	Almost all parts of the district.
4. Basirhat . . .	.	Hasnabad.
5. Contai . . .	.	Bhagwanpur, Rasulpur, Kalinagar, Potashpur, Paniparul, Contai (in Contai Sub-division) and Balughata, Kukrahati, Tekhalibazar, Suntahata, Teropkhia (in Tamluk sub-division).

6. Alipore . . .	Mathurapur P. S. :—Kasinagar, Raidighi, Nalgora Patharpratima, Jata. Sagar P.S. :—Chemagori, Goaliarchauk. Kakdwip P. S. :—Mausini, Namkhana, Monmothapur. Kulpi P.S. :—Kulpi, Dholarhat, Lakshikantapur. Joynagar P.S. :—Dhosahat, Jibanmondalhat. Canning P.S. :—Kalikatala, Ganthi. Diamond Harbour P. S. :—Sarisa, Sibanipur. Bishnupur P. S. :—Andharmanik. Magrahat P.S. :—Magrahat.
7. Midnapur . . .	Ghatal, Silda, Danton, Belpahari, Mohanpur, Khakudah, Narayangarh, Kharagpur, Gidni.
8. Bankura . . .	Khatra, Gangajalghati, Sonamukhi, Kotulpur, Ranibandh.
9. Birbhum . . .	Lohapur, Chatra, Muraroi, Nalhati, Rampurhat, Ahmadpur, Santhia, Dubrajpur, Jhoyrasole.
10. Burdwan . . .	Katwa Sub-division.
11. Chinsurah . . .	Piarapur, Rajadharpur Unions in Serampore subdivision.
12. Nadia . . .	All the Police Stations except Municipal area.
13. Raiganj . . .	Police Stations of Hemtabad, Kushmandi, Itahar.
14. Howrah . . .	Jogachha, Sankrail, Amta, North Shampur.
15. Darjeeling . . .	Kalimpong sub-division.
16. Jalpaiguri . . .	Raighanj, P.S., Falakata P.S. , Kumargram P.S., Kalchini P.S., Madarihat.
17. Cooch Behar . .	Mathabhanga, Sitalkuchi.

Bombay

The Committee visited the hand-pounding centres and rice mills at Bhiwandi and Shahpur in Thana District, Ahmedabad, Nadiad, Anand, Bulsar, Poona and Belgaum. Before giving the general picture of the State as a whole, it will be appropriate to note briefly the relevant aspects which were brought to the notice of the Committee in the areas which they visited.

Agricultural under-employment is acute in this State. In rice growing areas, only one crop is raised *viz.* the winter rice. The Secretary to the Government, Agricultural Dept., estimated that normally there was employment for only 2 days in the week for agricultural labour. Women of the agriculturist class, although they were prepared to do outdoor work, found little employment. The advocates of hand-pounding generally held the view that:

(a) Huller type mills should be immediately abolished as they are wasteful.

(b) Sheller type mills should be gradually abolished within a time limit of 5 to 10 years.

(c) No licence for new mills should be given and old mills should not be allowed to replace their parts.

(d) A cess should be imposed on the mills and the proceeds thereof utilised for granting subsidy to hand-pounded rice in order to equalise the market price of milled rice with hand-pounding rice. At present hand-pounded rice is dearer than milled rice by Re. 1 to Rs. 1-8-0 per md.

(e) The Government should supply paddy to hand-pounding centres and purchase the resultant rice for their hospitals, jails etc.

From the employment point of view it was stated that employment created per unit of capital is far higher in hand-pounding industry, than in rice mills, because for creating employment for one labourer, a mill required an investment of above Rs. 10,000 and hand-pounding required only Rs. 20. Again, whereas only 20 per cent. of the earning of a rice mill went to labourers, 95 per cent. of the earning of hand-pounding went to the hand-pounder. It was estimated that one labour unit working for 8 hours a day and for 6 months in a year could hand-pound 10 tons paddy at the rate of 2 mds. per day.

In this State, the huller mills were all of the small types with an investment of Rs. 2,000 to Rs. 4,000 with a daily output of about 40 to 50 mds. of rice. The capital outlay for a sheller type mill was estimated at an average of Rs. 50,000 to Rs. 60,000. The Secretary of the Civil Supplies Department of the State Government held the view that if no new licences were issued and the existing mills were not allowed to replace their parts, there would be an automatic elimination of the mills without the need for payment of compensation. The State Government were already following a policy of not issuing any licence for new rice mills. During the days of control, the State Government used to supply 50 per cent. of their procured paddy annually to hand-pounding centres and take the resultant rice. They used to pay the cost of milling per maund of paddy at the rate of 0-9-0 to the hand-pounding centres and 0-6-0 to the rice mills. But with the withdrawal of control and the stoppage of supply of Government procured paddy, most of these hand-pounding centres have closed down. Even during the days of control, in spite of Government patronage, the percentage of hand-pounded rice remained the same viz. about 41·6 per cent. since 1947-48. According to the non-official estimate, the percentage of hand-pounded rice would not now exceed 30 per cent. in the State. With a view to encourage hand-pounding side by side with the existence of rice mills, it was suggested that the mills be allowed only to produce unpolished rice by abolition of the hullers and the polishers and the unpolished rice be left to the hand-pounding industry for polishing. But against this, however, a view was advanced that dehusking of the paddy constituted the major part of the hand-pounding industry and if that went to the mills the purpose in view would be defeated.

The position in Bombay State was complicated by the fact that in a large part of the State, rice was not the only staple foodgrain

and any difficulty or inconvenience in getting the proper quality of rice would result in less consumption of rice and loss of market by the rice producers. Again, Bombay exported 70,000 tons of rice annually to overseas for consumption of Bombay Indians in South Africa. This export market must be safeguarded.

COPY OF LETTER No. 98/10533/II, DATED 10-12-54 FROM SHRI S. N. SAPRE DIRECTORATE OF CIVIL SUPPLIES, AND DY. SECRETARY, CIVIL SUPPLIES DEPARTMENT, BOMBAY TO THE MEMBER SECRETARY, RICE MILLING COMMITTEE.

SUBJECT:—*Rice Milling Committee appointed by the Government of India.*

With reference to your letter No. RMC/3/54, dated 6th November, 1954, on the above subject, I am directed to give the following information on the points mentioned in paragraph 4 of your letter:

(a) Different types of rice mills in the State and the number of each type:

Milling of paddy into rice is done in this State mainly by two types of machinery, i.e. sheller and huller. According to the latest information available there are at present 509 sheller and 3229 huller mills in operation in this State.

(b) The total number of persons employed in the rice mills the State:

The total number of persons employed in the rice mills is 5397.

(c) Chief centres where hand-pounding is predominant as compared to rice milling:

Rice milling is almost entirely done by machinery of present in almost all the districts of the State, but until about 15 or 20 years ago manual processes i.e. pestle and mortar, chakkies, Denkies or jatanis predominated in many districts like Surat, Kaira, Panchmahals, Kanara, Dharwar, Belgaum, Kolhapur, Nasik, Ratnagiri and Thana. During recent years, however the hand processes have rapidly yielded place to machine milling and it appears that almost all rice which goes into the trade channels is machine milled. But even so, there is a large quantity which is used for domestic purposes by the producers and it would appear that it is still got hand-pounded.

(d) Total estimated output (i) by hand-pounding and (ii) total output by mills and (iii) total output by husking machines:

In an unpublished report on "Marketing of Rice in Bombay State" prepared by the Marketing Department the following figures have been given to show the

break-up of the total production in terms of clean rice for the year 1947-48.

1947-48	1,000 tons clean (dehusked) rice	Remarks
(*a*) Production	797	
(*b*) Requirement for seed	38	
(*c*) Requirement for rice products	2	
(*d*) For stock feeding etc.	2	
(*e*) (b) plus (c) plus (d)	42	(about 5% of production)
(*f*) What remains for normal consumption i.e. (*a*)—(*e*).	755	(appx.) Pl. note that no allowance is made for waste.
(*g*) Portion from (*f*) obtained by machine milling.	442	[appx. 58·5% of(*f*)]
(*h*) Portion from (*f*) obtained by hand-pounding, home ponnding and by hand chakkies.	313	[ppx. 41·5% of(*f*)]

It will be seen that roughly 5 per cent. of the total production is accounted for as seed, rice products etc. and this mostly for seed purposes (seed rate works out to roughly 1 ton for 50 acres). In the two years 1953-54, the break up of the production, *viz.*, 9·53 lakh tons and 13·01 lakh tons respectively, was in the same proportion as in 1947-48 but making allowance for additional seed for the increased acreage over 1947-48, would roughly be as given below

Item	1,000 tons of clean dehusked rice 1953 (1952-53)	1954 (1953-54)
1. Production	953	1301
2. Seed etc. (appx.)	65	70
3. Net	888 (please note that no allowance is made for wastage in both years)	1231
4. By machine milling	519	720
5. By hand pounding, home pounding and hand chakkies.	369	511
	888	1231

The figures given above represent the estimated quantity of clean rice husked out in the mills, hand-pounded etc.

The figures given above against hand-pounding seem to be rather high but in all probability they represent the quantity used by the producers themselves for domestic consumption or for local sales. As observed already, most of the rice which is marketed is converted in mills

and a very small percentage of it is processed by manual methods.

(e) Percentage and normal recovery of rice from paddy by different milling processes and in hand-pounding:

The outturn of rice depends primarily on the quality and variety of paddy and the degree of polish given to the rice. For nearly 4 years during the control period, however, mills were required to give no polish at all or only nominal polish was given to all rice turned out by them and it was then observed that the recovery of rice from paddy in sheller mills was about 75 per cent. for raw rice and 76 per cent. for parboiled rice, for superior types of paddy. For inferior types of paddy the outturn was slightly less. During the last two years millers were allowed to give about 3 per cent. to 4 per cent. polish to rice and the outturn that was generally received amounted to about 71 per cent. or 72 per cent. in respect of raw rice and 72 per cent. to 73 per cent. in respect of parboiled rice

In the case of huller type mills, the percentage of rice received from paddy was much less because of wastage involved in the process. Moreover, the percentage of kani in rice, converted in huller mills, was found to be as much as 20 to 25 per cent. as against 5 to 10 per cent. in the case of sheller mills. These percentages are in all cases approximate or average because the outturn varies with the type of machinery, the quality of paddy, type of agricultural season and even the weather during which the milling is done.

In the case of hand-pounding, our experience was that the outturn of unpolished rice was about 74 per cent. including the admixture of kani, it was about 1 per cent. less than the outturn in sheller mills.

2. In paragraph 3 of your letter, you have asked for the views of the Bombay Government on—

(i) whether they think it necessary to exercise any control over production by mills and husking machines and if so what measures they would propose for the purpose of such control;

(ii) whether any protective measures like reservation of spheres of production and imposition of a cess on the mill sector are considered necessary and feasible; and

(iii) whether the production by hand-pounding can meet the total rice requirements of the State and what measures are proposed to be taken in this connection for organisation and expansion of hand-pounding.

In Bombay State, control over the working of rice mills has been in existence for the last 11 years. The Rice Mills Licensing Order was issued in 1944 mainly with a view to secure additional output by limiting the degree of polishing to be given to rice. It was reissued in 1949 in a somewhat more comprehensive form and was further

modified from time to time thereafter. A copy of the Order as it now stands is enclosed herewith. Under it all rice mills operated by means of power are required to take out a licence and all mills are required to give polish to rice in accordance with the provisions of the licence, which currently are to the effect that no mill shall give polish to rice in excess of 3 per cent. on the basis of paddy. It has been the general policy of this Government, since 1950, not to issue licences for any new mills; licences were issued to only a few such sheller mills and huller mills to which a paddy separator was attached, since according to the advice given by the Government of India in 1950 a paddy separator substantially removes the defect in the working of a huller mill by reducing the wastage involved.

The avowed objectives of this policy of restricting licences only to the existing mills is to allow to the hand-pounding industry as much scope as the present circumstances permit. The closure of any of the existing mills was not considered appropriate, both because of the economic wastage involved if all this machinery is forced to remain idle permanently and because the capacity of the hand-pounders to tackle the problem of conversion on the scale that will be involved is at present very much open to doubt. The possibility of turning th machinery of the existing mills to other uses is a problem which required to be studied closely both in order to avoid the wastage referred to above and in order to give time to the hand-pounding industry to develop again. It is doubtful whether dependence on mills can be completely eliminated even in the course of a few years but it appears to this Government that progressive elimination of the existing mills would be necessary if encouragement of hand-pounding is to be adopted as a principle of State policy because the machinery already installed is of such capacity as to handle the whole production of paddy in the State. It is necessary in the opinion of this Government to embark on such a policy, since it has been established beyond doubt that milling is a process injurious to the nutritive contents of the rice grain, which, on the other hand, are substantially preserved in the process of hand-pounding. Apart from this, hand-pounding deserves steady encouragement, because it is capable of providing employment to about 75 or 80 times as many people as milling. It has been calculated by the Village Industry Board that if all paddy produced in the country apart from what is required for seed etc. becomes available for hand-pounding, it will provide employment to 4·75 million new people in addition to 50,000 persons now employed in mills and that the money value of the effort will amout to Rs. 700,000,000.

It appears to this Government that the first step to bringing about such a result would be to impose statutory restrictions on the setting up of new rice mills. As stated above, this has been done in Bombay State under the provisions of the Rice Mills Licence Order and it is for the Committee to consider whether action on similar lines would not be desirable in the rest of the country, when it is understood that rice mills have not been established to the same extent as in Bombay State and hand-pounding has still a large place in the agricultural economy. The stages in which the reduction in the number of mills should proceed will also have to be a

matter for careful consideration by Government once the policy of steady elimination of the mills is introduced in order to provide a widening scope for the hand-pounding industry.

It is necessary to refer here to the fact that the constitutional propriety of the action of this Government in refusing to issue new licences under this order has been questioned in many quarters though the point has not yet been raised and decided in a Court of Law. It has been urged against the Order that it would impose restrictions on the right of every citizen of the Indian Union under article 19 of the Constitution to follow whatever avocation he chooses, since the result is to prevent him from setting up a rice mill if he desires to do so. The legal validity of any restriction that may have to be imposed in order to give effect to the policy of Government in this matter will have to be considered carefully by the Committee and the desired result will have to be brought about in such a way as to be within the constiutional powers of the Government.

3. Further observations on this issue and on points 2 and 3 mentioned above will be submitted to the Committee at a later stage.

4. As regards the names of organisations and individuals whose evidence may be taken by the Committee, the following officers, individuals and institutions are recommended for the purpose:

Madhya Pradesh

Madhya Pradesh is surplus in rice, exporting about 2½ to 3 lakh tons per annum to other States out of a total production of about 26 lakh tons. The exports are mainly to Calcutta, Bombay, Madras, Bihar and Orissa. The total annual rice consumption in this State is 21 lakh tons which forms 56·5 per cent. of the State's total cereal consumption. Rice is largely consumed, practically by every person twice a day, in the districts of Raipur, Bilaspur, Drug, Bhandara, Balaghat and Chanda. In other districts the rural and the middle classes consume rice once a day and the poor eat rice only occasionally. Nearly 18 lakh tons which constitutes 78 per cent. of the total rice production of the State is still hand-pounded and about 5 lakh tons processed in rice mills and small hullers. The hand-pounding industry has, therefore, been able to maintain its own in this State in spite of the existence of 413 rice mills and 312 small hullers. The hand-pounding industry was able to survive the control period because the State Government did not follow a monopoly procurement system as in Mysore, Madras, and other States, procuring only 60 per cent. of the stocks of millers and traders leaving 40 per cent. for the open market to be operated by the hand-pounding industry. Rice is predominantly grown in the districts of Bilaspur, Raipur, Drug, Bhandara, Balaghat and Chanda. Rice mills also preponderate in these districts. In Bastar district which is 184 miles from the nearest rail head 90 per cent. of the rice grown is hand-pounded. Last year 10,000 tons of rice was produced by hand-pounding in this district. Both in Bastar and in Raigarh districts there is a large open market trade in hand-pounded rice. Producers bring head-loads of hand-pounded rice to the market and a

regular trade channel has grown up for hand-pounded rice. The attention of the Commiftee was drawn to the declining price of paddy in Bastar district as a result of which the cultivators were facing a crisis. At Raigarh the Committee examined a number of traders who exported hand-pounded rice from this area to West Bengal, and Bihar collieries and also to Travancore-Cochin. They said that the daily arrival of hand-pounded rice in the Raigarh market was 4000 bags and they exported per month about 2 lakh maunds of rice. It is thus a special feature of this State that rice is hand-pounded not only for home consumption in the rural areas but also for the trade and for export out of this State. It was interesting to find that a rice mill in Bagbahara near Raipur purchased hand-pounded rice and exported it to Bangalore. Another feature of this State is that like West Bengal the paddy is parboiled before hand-pounding because in most areas the people eat parboiled rice and there is a demand for parboiled rice for export from this State.

2. The method of hand-pounding varies from tract to tract. In the North it is done with stone or clay chakkies locally called Kunatas. In Chanda district it is done with pestle and mortar locally called Ukhli and Musal. In the districts of Drug, Raipur and Bilaspur the dhenki system is used under which the work is quicker and output is nearly double.

3. As already stated, the rice mills and small hullers between them produce about 5 lakh tons of rice per year in this State. The average daily output of a rice mill is 100 to 300 bags of rice and a small huller 25 to 50 bags of rice.

4. In connection with the question of unemployment, the Committee's attention was drawn to the scheme for the construction of a large steel plant in Bhilai in Drug District, sponsored under the Indo-Soviet Agreement.

5. As regards the polishing of rice the local Government, as in Bombay, issued an order during the control period banning all polishing, and restricting the rice mills to produce only dehusked rice. This measure proved very unpopular with the consumers and had to be withdrawn later. The concensus of opinon is in favour of under-polished rice.

Pulses

The total acreage under pulses in this State is 58 lakhs with an annual production of 11·7 lakh tons (1953-54) of the following varieties:

	(In lakhs tons)
Gram	2·4
Tur	5·7
Mash	0·9
Mung	0·4
Masur	0·4
Peas	0·2
Khesari	1·7
	11·7

The Committee visited a big dal mill at Nagpur with a daily capacity of 625 maunds per day of 8 hours employing 70 labourers. The mills annual outturn was 50,000 bags, of which 90% was exported to other States. The dal mills worked 8 to 10 months of the year exclusively for processing pulses. For processing Tur dal, the mill used a roller machine for cracking the whole grains, after which the grains were oiled and watered, dried and then split in a sheller machine. The split grains were then sieved and coloured. For pulses other than Tur, the oiling and watering process before shelling, was not necessary. The husk was sold as fodder. The machinery was installed in 1945-46, before which the mills employed chakkies. Two women operating one chakki would produce one bag of dal per day of 8 hours, on a wage of -/12/- each. The cost of processing by the mill was from -/14/- to Re. 1/- per bag, which was -/8/- to -/10/- per bag less than by hand-pounding. But in rural areas where there were no mills or a small town like Bilaspur where mills were few, hand-pounded dal constituted 80 per cent. to 90 per cent. of the total consumption. At Bilaspur there were 20/25 chakki centres for producing dal. These centres purchased whole pulses from grain merchants, hand-pounded them and sold them to local consumers. The grains were split in the chakkies and then the husks were separated and the split dal polished in dhenkies. It was said that before the dal mills came into existence, hand-pounded dal used to be exported from this State. As regards the quality of productions, whereas the millers contended that milled dal was better looking and contained less brokens, the chakkiwallas claimed that it was the hand-pounded dal which possessed both these qualities to a greater extent than milled dal.

COPY OF OFFICE MEMORANDUM NO. 38/C, I DATED 6-1-55 FROM THE DIRECTOR OF INDUSTRIES, MADHYA PRADESH ADDRESSED TO THE SECRETARY TO GOVERNMENT, MADHYA PRADESH, COMMITTEE AND INDUSTRY DEPARTMENT AND COPY FORWARDED TO SECRETARY, RICE MILLING COMMITTEE, GOVERNMENT OF INDIA, MINISTRY OF FOOD AND AGRICULTURE, NEW DELHI.

SUBJECT:—*Rice Milling Committee—Government of India.*

In the absence of a recent survey in this field I had to supplement the information available in this department from the Report of the Industrial Survey Committee written in 1939 and the Report on Marketing of Agricultural Commodities (Rice) published by the Agriculture Department in 1952. The following remarks are offered on para 3 of the Rice Milling Committee's letter No. RMC/3/54 dated the 6th November 1954:—

In this State, it is probably in the Raigarh district alone that hand-pounding of rice is carried on to some extent. This system is also now fast giving way to the system of dehusking by hullers as (a) the production of rice by hand-pounding is slow and costly, and (b) the people in general prefer to have machine polished rice. Introducing any sort of control over the machine polished rice at this stage will create a vacuum in the market and affect it adversely.

It is necessary first to impress on the people the advantages of hand-pounded rice by intensive propaganda and thereby create demand for it. Some implements for dehusking of rice by hand requiring less labour and giving more output should be introduced in the villages. As regards reservation of spheres of production and imposition of a cess on the mill sector, this can be taken up only when demand for hand-pounded rice is created in the masses. The State Government may, however, consider, stopping of issuing fresh licences for rice mills with a view to giving impetus to hand-pounding industry but it is considered that the prospects of the revival of hand-pounding in the face of competition from power-driven plants, which are being installed in increasing number are remote.

The information asked for in para 4 of the Committee's letter dated the 6th November 1954 is given below seriatim:—

(a) A statement showing different types of rice mills in the State is enclosed.

(b) The total number of persons employed in the rice mills registered under the Factories Act as per statistics of the Chief Inspector of Factories, Madhya Pradesh, comes to 4477.

(c) Bhandara, Balaghat, Chanda, Drug, Raipur, Bilaspur, Raigarh.

(d) (i) Total output by hand-pounding—

Clay chakkies—4 mds. per day.

Dhenkies—2-3/4 mds. per day.

Pestle and mortar—1 md. per day.

(ii) and (iii) Total output by mills and husking machines—

Five lakh tons of full polished rice or 5:40 lakh tons of half polished rice or 5:80 lakh tons of bagad per year. As per unofficial information obtained from the Food Department it is understood that the daily output of rice in terms of bags is on an average 2-3/4 md. capacity.

The latest data of daily output by husking machines in rice milling areas of the State is given below:—

	Sheller type (in bags)	Huller type (in bags)
Raipur	182	25
Bilaspur	223	176
Drug	200 to 300	10 to 12
Bhandara	100	50
Balaghat	100	30
Chanda	150	35
Seoni Sub-Dn.	52	15
Gondia	60	30
Bastar	150	16
Raigarh	300	400
Surguja	50	50

(e) The average paddy grain consists of 23 to 25 per cent. husk, 1 to 2 per cent. cuticle and germ and 74 to 76 per cent. kernal. Normally, therefore, paddy free from dirt etc should yield about 74 per cent of saleble products *i.e.* clean rice, brokens and bran. The proportions of the various products vary according to the methods used and the type of the variety of the grain itself. Due to the fact that hulling, whether in hand-pounding or power mills is frequently done by illiterate or semi-literate persons, precise and reliable data in respect of recoveries of rice and other products is not possible. The following are the general remarks on the subject:—

(i) Hand-pounding yields a slightly higher quantity of rice than that of the power mills. This is due to the fact that in the former process less pericarp is removed. But at the same time, proportion of broken rice is more in hand-pounding than in the machine-milled rice.

(ii) Generally the coarse varieties give a higher recovery of rice than the medium and fine ones.

(iii) In power mills, the type of machinery used and the degree of milling also affect the outturns of rice. In the automatic milling plants there is less breakage of grains than in the hullers. If it is desired to have highly processed rice it will mean severe milling and therefore the outturn of rice will be less and that of bran more than if a less finished product is required.

(iv) The outturn of rice also depends on the type of soil from which it is derived. Rice grown in light soils is liable to give a higher percentage of brokens than the rice from heavy soils.

(v) Grains stocked for more than four years become brittle and so result in higher breakage.

Apart from the above other factors which affect the hulling outturns are—(i) harvesting when the crop is over-matured, (ii) harvesting it before it is properly matured, (iii) lodging of the crop, (iv) over drying of the grains before husking, damage to grains by rains and admixture of grains of different varieties etc. These factors cause a higher percentage of breakage in hulling. The results of experiments conducted in a rice mill at Raipur during 1936 are tabulated below (rice obtained was full polished):—

Percentage to Paddy

Item	Gurmatia (Coarse)		Hansa (Medium)		Banasapati (Fine)	
	Old	New	Old	New	Old	New
Rice . .	70·27	71·32	66.	66·44	..	68·75
Sand & dirt .	0·95	1·07	0·92	0·98	..	1·11
Broken rice .	1·35	1·07	1·45	1·32	..	0·83
Bran . .	4·59	4·80	4·61	5·79	..	5·42
Fine bran .	5·54	4·27	5·66	4·28	..	3·88
Husk . .	17·30	17·47	21·70	21·19	..	20·00

The revenue authorities consider 62 per cent. including the brokens as the average conversion factor for the whole State. In partially polished or half polished rice the outturn is about 67·5 per cent. while in bagad it is about 72 to 74 per cent.

Rice mills in rice producting districts

S. No	District	Total No. of Rice Mills (4×5)	Rice Mills			Average of rice milled per day (in bags)			Remarks
			Sheller type	Huller type	Parboiled Rice mills (from col·3)	Sheller type	Huller type	Parbolied rice mills	
1	2	3	4	5	6	7	8	9	10
1	Raipur	75	74	1	6	182	25	160	
2	Bilaspur	110	72	38	25	223	176	332	
3	Drug	56	30	26	1	200 to 300	10 to 12	125	
4	Bhandara	167	94	73	..	100	50	..	
5	Balaghat	95	43	52	..	100	30	..	
6	Chanda	56	37	99	..	150	35	..	This information relates to the current rice season.
7	Seoni	29	5	24	..	52	15	..	
8	Gondia	95	34	61	..	60	30	..	
9	Bastar	8	3	5	1	150	16	100	
10	Raigarh	26	19	7 Sheller & huller	8 Parboiled and raw.	300	400	400	
11	Surguja	8	2	6	..	50	50	..	

Hyderabad

The total rice production of the State during 1953-54 was about 6 lakh tons. The number of rice mills as reported by the State Government were 684 of which 343 are of the large automatic type. Besides these, there are thousands of small hullers which are unregistered and for which the State Government are unable to supply precise figures. During the control period, the State Government as a matter of policy stopped issuing licences for small hullers but with the relaxation of control, licenses were allowed for such machines. With the decontrol, the State Rice Mills Control Order ceased to be in force, and the Government have not yet reintroduced any licensing orders. One reason for the quick increase of the small hullers in the country side was that the State Government distributed a large number of oil engines to agriculturists on takkavi loans basis, for running irrigation pumps. The owners of these oil engines utilised them in spare time for driving small hullers for processing rice. The small hullers have, as in other States, penetrated into the villages. The State Government has no precise figure for the percentage of rice which is still hand-pounded in the State. The Chairman of the State Khadi & Village Industries Board in his written memorandum stated that 60 per cent. of the rice requirement of the State was met by hand-pounding. It might be even a little more than this. Rice constituted about 39 per cent. of the total foodgrains consumed in the State, the other principal foodgrains being wheat to the extent of 21 per cent. and Jowar and other foodgrains to the extent 40 per cent. The State which was so long considered to be deficit is now self-supporting in respect of rice. Out of 17 districts, 9 are irrigated and rice growing tracts. Nizamabad, Karimnagar, Medak, Warangal, Mahabubnagar and Nalgonda, are the large rice growing districts in the State. In Raichur district, the wages of agricultural labourers are as low as -/8/- per day for a man and -/4/- per day for a woman. Although the density of population is only 185 per square mile in the rural areas and 227 as a whole, the condition of the agriculturists is poor because of lack of sufficient money crops. Some areas grow a little cotton, and the only other cash crops are limited quantities of sugarcane, castor seeds and mohua. Lack of cash crops, and of subsidiary employment in this State, indicate a field for the hand-pounding industry, provided that it gets the necessary help in the form of subsidy and of protection against the rice mills. The State Khadi & Village Industries Board have organised a number of hand-pounding centres with improved stone chakkies. Lady organisers of the Social Welfare Scheme of the Government of India have also planned to open 40 centres, each centre to be equipped with two stone chakkies of the improved type. The State Government favour the expansion of such hand-pounding centres with Government subsidy, and as an encouragement they are prepared to have only hand-pounded rice for the Government hospitals, jails, hostels etc. The State authorities were in favour of stopping the issue of fresh licences for rice mills. In opening work centres for destitute women of the cities, hand-pounding implements are proposed to be provided for their employment. Public opinion was strongly expressed before the Committee in favour of giving protection to the hand-pounding industry by way of Government subsidy, imposition of

cess on the rice mills, stopping the issue of fresh licences to rice mills and gradual elimination of the mills.

The Committee visited Warrangal, Hyderabad, Mahbubnagar and also some rural areas.

At Gandhi Ashram and Gramseva Kendra at Sivepalli near Hyderabad which the Committee visited, hand-pounded rice is being produced with improved stone chakkies and pestle and mortar. With these implements 3 women could process 90 seers of paddy in six hours into 64 seers of cleaned rice. The wages are paid in kind, namely 6 seers of half-broken rice. This hand-pounding centre is prepared to supply Government requirements of rice for hospitals, jails etc. At Warrangal the Committee met the Secretary of the Taluka Agricultural Co-operative Society who was organising hand-pounding centres with stone chakkies of the improved type given by the Khadi & Village Industries Board. He said that these centres needed Government patronage for supplying requirements of hospitals etc. There is one special facility available in Hyderabad State for hand-pounding, namely, that the improved stone chakkies could be manufactured with locally available stones at Rs. 20/- per chakki as compared to Rs. 40/- charged by the Khadi & Village Industries Board. Of the 11 hand-pounding centres already working in this State 7 are in the district of Mahbubnagar which was visited by the Committee. The most successful centre is at Wanaparti where 20 maunds of rice have been hand-pounded per day during the last 5 months. At this centre 4 women hand-pound 2 pallas of paddy on a wage of -/12/- per head per day working for 6 or 7 hours. This centre is a co-operative society. The Society charges Rs. 2/- per palla of rice milled which is the same as the cost of milling by rice mills. This the society is able to do, because it is getting a Government subsidy at the rate of Rs. 1/8 per palla. In this way the Society earned a margin of -/6/- per palla to meet its establishment cost. At Mahbubnagar the rice mills are exporting rice to the States of Andhra, Bombay and Madras. In the City of Hyderabad, the rice mills do not mill rice for purpose of trade but only on payment of milling charges paid by producers who bring paddy to the mills and take away the resultant rice.

COPY OF LETTER NO. 29785/C-63(11)54, DATED 5-3-55 FROM THE SECRETARY TO GOVERNMENT, COMMERCE AND INDUSTRIES DEPARTMENT, HYDERABAD-DECCAN TO THE MEMBER-SECRETARY, RICE MILLING COMMITTEE, NEW DELHI.

With reference to your reminder letter No. RMC (P)/10/55 dated the 9th February, 1955, on the above subject I am directed to state as follows:

Para 3.—In order to encourage the hand pounding industry it is desirable to impose restriction on the production by mills and husking machines. The restrictions that could be imposed are:—

(a) Permission for new Rice Mills or any extension in the existing rice mills may not be granted except in surplus areas.

(b) Restricting the number of shifts of the existing Rice Mills.

(c) Preventing the installation of hullers, and

(d) Regulating the speed of the existing hullers.

2. Rice mills should be allowed to mill certain grade of paddy only. A cess may be imposed on the output of Rice Mills.

3. At present 60 per cent. of the rice requirements of the State are met by hand-pounding. The economic conditions of the hand-pounding Units are anything but happy. Hence it is necessary to improve their conditions. For this purpose, the following measures are suggested:—

(i) Formation of Co-operative Societies of the hand-pounders.

(ii) Social Workers may organise educative campaign to persuade rice consumers of the advantages of hand-pounded rice.

(iii) The existing implements may be improved.

(iv) Financial assistance to Co-operative Societies and individuals may be provided. Even production subsidy may be given.

(v) The Village Administration such as Panchayat Board should undertake upon themselves the task of seeing that the paddy produced within their area is pounded by hand.

Para. 4.—(a) As per information furnished by the Chief Inspector of Factories & Boilers there are 155 registered rice mills in the State in which the number of shellers is 157 and number of hullers is 243.

(b) The total number of persons employed in rice mills of the State is 1,772.

(c) Hand-pounding is carried on in almost all the villages of the Telengana Districts of the State. Hence it is difficult to name the places where hand-pounding is predominant.

(d) Total estimated output.—(i) by hand-pounding 135 lakh maunds. (ii) and (iii) separate figures for mills and husking machines are not available. However the total estimated output may be taken at 90 lakh maunds.

(e) The percentage of recovery of rice from paddy by different milling processes is as follows:—

(*a*) Hand-pounding	72 per cent.
(*b*) Sheller	70 per cent.
(*c*) Huller	66 per cent

MYSORE

It is reported by the State authorities that only 17,000 tons of rice were hand-pounded, out of a total production of 4·36 lakh tons (1953-54). It is not clear on what data this estimate is based. One peculiar feature in this State is that rice forms a part of the

diet of only 30 per cent. of the population chiefly the upper class. The bulk of the population take ragi as staple food. The chief reason for this very low percentage of hand-pounded rice is said to be that during more than ten years of control the rice mills acted as the sole procurement agents of the Government and no private trade in paddy or rice was allowed throughout the State. The rice mills not only milled the entire paddy procured by the State, but they also functioned as purchase depots under a monopoly system of Government procurement. Hand-pounding of rice, therefore, became practically non-existent except for home consumption by about 10 per cent. of the producers. Rural electrification which is a special feature of this State—as many as 750 villages out of 16106 having been electrified—favoured the rapid increase of small hullers in the villages.

The Committee visited a model village industries centre at Tumkur. Wooden chakkies and dhenkies are used for handpounding of rice in this centre. The wooden chakki dehusks 1·1/2 pallas of paddy a day as against 2·1/2 pallas of paddy dehusked by a stone chakki, but the former is preferred in the village because it is very light and easy to operate. In the village, the producers commonly use pestle and mortar for hand-pounding small quantities of paddy and the dhenki for bigger quantities.

The Committee visited Bangalore, Mysore, Tumkur, Shimoga and a number of villages.

The advocates of hand-pounding are generally in favour of organising co-operative societies of producers for hand-pounding. The Committee examined several witnesses who were connected with co-operative societies. Almost the entire rural area of this State is served by co-operative organisations. The major problems which producers' co-operative societies for hand-pounding would be called upon to tackle are (1) advances of money to the producers soon after the harvest on the security of their paddy to be stored in the societies' warehouses, (2) to have the paddy hand-pounded and (3) to sell the rice in the market at a sufficient margin to pay the producers a remunerative price for their paddy, to pay attractive wages to the hand-pounders and meet the societies' over-head charges. For this purpose very large finances in the form of loan and subsidy will have to be made available for these co-operative societies at the very initial stage. A number of paddy co-operative societies are successfully functioning in the State, which purchase paddy from the producer-members, have it milled by a rice mill and sell the rice to producer as well as consumer—members. The Secretary of one such Society expressed his readiness to have the Society's paddy hand-pounded instead of milled by the rice mill of the Society was granted a good site to build a godowns. At present the rice mill served as the Society's warehouse. Some large Consumers Co-operative Societies which are successfully operating in the urban areas, can also be induced to hand-pound their rice instead of getting it milled by rice mills as they were doing now. A Director of the Mahleswaram Consumer Co-operative Society in Mysore City was prepared to hand-pounded the rice for its 3,000 consumers-members if the Government guaranteed any loss incurred in such a venture. Some of the village Panchayats which were visited by the Committee

were prepared to organise hand-pounding in their areas. There were 9,286 single Panchayats and 3,020 group Panchayats in this State. It was observed that once the hand-pounding industry made some progress, traders also would organise hand-pounding for their own trade.

On the nutritive value of undermilled, milled and hand-pounded rice, the Committee obtained the report of the Central Food Technological Research Institute of Mysore and had the benefit of the advice of the Director of the Institute. According to the Director of the Central Food Technological Research Institute, who was interviewed by the Committee, hand-pounded rice polished to the extent of about 7 per cent. contained more of protein and B-vitamins than rice polished in the mill normally to the extent of 15 per cent. If, however, sufficient dal was taken with the rice, the difference was not significant.

COPY OF LETTER NO. S. D. 10, 119, DATED THE 21ST JANUARY, 1955, FROM SHRI N. PUTTARANGASWAMY, I.A.S., CHIEF SECRETARY TO THE GOVERNMENT OF MYSORE, BANGLORE.

With reference to the paras. 3 and 4 of your letter under reference, I am directed to state as follows:—

In Mysore, there are as many as 282 sheller type mills and 1,768 huller type mills which employ nearly 4,500 workers. The bigger type of sheller type mills are not only engaged in hulling paddy and converting it into rice, but they act as Purchase Depots. The millowners make bulk purchase of paddy from the growers and stock the same during the harvest season. They hull this paddy and convert it into rice which in turn is purchased by the traders in rice and is made available to the consumers through the normal trade channels. Apart from this, some of the growers and also other rice dealers who do not own mills and who make bulk purchases of paddy get the same hulled in rice mills for selling the rice to consumers. There are quite a number of mills in all paddy growing areas, and even in other places, where paddy is grown under tanks, there are the huller type mills which are largely engaged in hulling paddy. The hand-pounding industry which used to thrive before the mills came into existence has almost disappeared. By merely restricting the installation of new rice mills and new hullers, it would not be possible to revive this industry of hand-pounding, as it would be uneconomic both with reference to cost involved in converting paddy into rice and with regard to iluvary. Moreover, the bulk of the people in the State prefer polished rice to unpolished rice. Even in times of control when Government insisted on producing only dehusked rice, the consumer who purchased this rice from the depots would take it to mills and get the rice polished before cooking. In fact, a new industry has developed during the period of control in almost all the places and in all the big cities and towns to polish unpolished rice, Persons who used to take to hand-pounding of rice as their profession are now not available as this industry is no longer in existence and they have

found better means of employment. It would also be difficult to find market for hand-pounded rice in view of the fact that the vast majority of the consumers prefer polished rice. On account of this fact, Government of India are also insisting upon delivering polished rice for the Central Reserve, as it is difficult to find a market for hand-pounded rice. As long as the existing rice mills and hullers in the State hull the paddy, and polish the rice and make it available in open market, it would not be practicable to revive the hand-pounding industry in the State merely by imposing restrictions on the installations of new rice mills and hullers. Besides, the imposition of restrictions will not be successful, as past experience has shown that it is difficult to resist the pressure from the public through the Legislature against such restrictions.

With regard to the protective measures regarding the reservation of spheres of production and imposition of cess on the mill sector, this Government is of opinion that the rice mills and hullers have come to stay and that apart from the fact that all the rice required for public consumption cannot be made available from hand-pounding with the best will in the word, the restriction and imposition of a cess would only have the effect of imposing a cess on the consumer and would not in any way give the necessary impetus for the hand-pounding of rice. It would also be not possible to get sufficient number of people to take to the profession of hand-pounding of rice as this would not give them a sufficiently attractive living wage compared to the other walks of life and other professions. It would, therefore, be difficult to get anybody to take to this profession as a living. This would also not give them occupation throughout the year and they will have to have recourse to other means of livelihood and cannot depend only on the hand-pounding of rice.

As regards the extent to which the production of hand-pounding can meet the total rice requirements of the State, it has to be stated that the use of rice as a staple food has increased in recent years with the development of wet cultivation and increased production of paddy. Before, ragi was the main food crop and most of the working classes either in the cities or villages and many of the well-to-do classes in the rural areas were accustomed only to ragi as a staple food. Nowadays, even the working-class use a very large proportion of rice and comparatively less of ragi both in the rural and in the urban areas. Thus the requirement of rice in the State is proportionately far larger than what it was in the past. Even at a time when the use of rice was restricted it was impossible to meet the requirements of rice by hand-pounding only.

In the above circumstances, this Government is of the view that attempts to organise and expand the hand-pounding of rice industry and to impose restrictions on rice mills and hullers will not be effective and successful. All the same, it seems desirable to explore the possibility of reviving this industry and to make all earnest attempts in this direction to encourage the same wherever there is scope as an experimental measure. The results may be watched and it may thereafter be considered what effective measures may be adopted to revive this industry.

PUNJAB

The total rice production of the State only 2·34 lakh tons of which according to a rough estimate about 20 per cent. is hand-pounded. There were 20 sheller type and 800 huller type mills in the State towards the end of the control period *i.e.*, in 1953-54. During the control period several rice syndicates representing grain dealers and rice mills, were under a monopoly procurement system entrusted with the procurement of paddy which after being milled by rice mills, was delivered to Government. Since de-control, the licensing of these mills is no longer in force and the latest figures for the number of rice mills are not available. Rice is grown in this State more as a cash crop, because people in general eat only wheat and maize and take rice very rarely as a luxury. The cultivators grow rice mainly for sale. What little rice they consume is hand-pounded in their homes with mortar and pestle, water-driven chakki and dhenkies operated with food or by water-power. The Kangra hill areas are, however, an exception. The people in these areas mainly eat rice, and this rice is mostly hand-pounded. The rice production in Kangra district was 44,000 tons in 1953-54 a major part of which is hand-pounded.

This State enacted the East Punjab (Consolidation and Prevention of Fragmentation) Act, 1948 with the object of increasing the size of agricultural holding in order to make them more remunerative. It is expected that production will increase as a result of this measure. The average size of agricultural land per land-owning family is as high as 6·95 acres, and cultivated land per capita is also high *viz.*, 1·1 acres. The density of population in rural areas is only 285 per sq. mile and the number of landless cultivators only 7·7 per cent.

The All-India Khadi & Village Industries Board have recently appointed an Inspector for organising hand-pounding centres in this State. There is a State Relief Committee under the Board which have taken up the organisation of hand-pounding centres in the districts of Kangra and Karnal. According to the hand-pounding Inspector, there is good scope for organising hand-pounding centres in both these districts. There is also a State Khadi & Village Industries Board, of which the Chief Minister is the Chairman. But so far no hand-pounding centre has been organised anywhere within this State.

There are 14 possessing and marketing co-operative societies of cotton and sugarcane producers, but none yet for producers of paddy. There is, however, a system of cooperative commissioned selling agents licensed by the Co-operative Department, who acts as selling agents for all kinds of agricultural produce. There are 77 regulated markets operating in the State. Licensed warehouses are also soon to be established by legislation. The Bhakra-Nangal project contemplates large scale electrification of the villages for encouraging village industries. The small rice hullers have penetrated into the rural areas in this State also, driven by water, diesel engine or electricity.

It was ascertained from the Rice Mills Association of Amritsar, that milled rice has, since decontrol increased by 50 per cent. due

to the increase of new hullers. Mostly raw rice is milled and not parboiled. The rice millers of the State export fine rice to East Africa, Ceylon, Calcutta and Bombay.

Pulses

Punjab produced 10:77 lakh tons of pulses in 1953-54 of which gram constituted 10 lakh tons, mash 26,000 tons, masur 16,000 tons and mung 8,000 tons. In Amritsar there were 50 power-driven chakkies and only 4 roller dal mills. The power-driven chakkies were considered suitable for gram and the roller dal mills suitable for mung and mash. The recovery of dal from 1 md. of whole pulse by power chakkies is as follows:—

Gram.....28 srs.
Mung.....26 srs.
Mash.....26 srs.
Masur.....30 srs.

Whole mash pulses are first passed through hand chakkies and then put through the roller. There was no hand chakki operating as an independent unit in Amritsar. There were a few bullock driven chakkies in Amritsar.

The biggest dal centres in this State are Hissar and Kaithal (Karnal Dist.). Hissar export large quantities of gram in the form of whole gram as well as gram dal.

In Amritsar, it was reported that the hand chakkies were displaced as far back as 20 years ago, and no labour will be available for operating dal chakkies.

It was reported that there was general dearth of labour in this State since the exodus of Muslims after partition, because the latter used to supply the largest number of labourers.

In the villages, pulses for home consumption were mostly milled with hand chakkies.

COPY OF A LETTER NO. 93-AGR-55/166, DATED THE 18TH JANUARY, 1955 FROM SHRI H. B. LALL, I.A.S., DEPUTY SECRETARY TO THE GOVERNMENT OF PUNJAB, DEVELOPMENT, DEPARTMENT SIMLA, TO THE SECRETARY, RICE MILLING COMMITTEE, NEW DELHI.

Sub:—*Rice Milling Committee—Government of India*

I am directed to refer to your letter No. RMC/3/54, dated the 6th November, 1954, on the subject cited above and give below the requisite information *seriatim* so far as the Agriculture Department of this State is concerned.

Para. (3).—The Punjab State is primarily a rice exporting region of the country. In the plains the people take rice occasionally as a dish for which purpose they prefer polished rice. On this account legislative measures, if any, to encourage hand-pounding of rice in

plains is neither necessary nor feasible. But in the hilly regions of Kangra District and some parts of Hoshiarpur and Ambala Districts where rice is an important staple food, some measures seem to be necessary to encourage hand-pounding because the nutritive value of hand-pounded rice is definitely superior to the mill rice. In these areas, the local produce, if hand-pounded, can meet the requirements of the population and hand-pounding can and should be encouraged as a cottage industry. For this purpose subsidy should be given to the Co-operative Societies which could undertake this work. An indirect way of encouraging hand-pounding of rice in these areas would be to charge heavy licence fee from the persons, who are operating the hullers, etc.

Para. 4(*a*) (*i*) *Hand-pounding.*—At one time this was the commonest method of husking paddy in the Punjab but this method has now become practically out of date with the introduction of hullers driven either by water or electric power. From nutritive point of view, hand-pounded rice is much better than the rice husked by machines as the former does not allow too much of polishing. Milling of rice by chakkies and dhenkies has also become out of date now.

(ii) *Hullers.*—The hullers, which consist of metal rollers and are driven by water power, oil engines or electric power, have now become very common both in the country-side and in towns and cities. Output of rice husking per huller having one set of rollers is estimated at 15 to 20 maunds of paddy per day of eight hours. A machine of this type costs Rs. 200 to Rs. 300 and cost of working it is rather low. Great care is required in avoiding polishing by these machines The exact number of hullers in operation in the Punjab is not known.

(iii) *Sheller.*—The shellers require considerable capital outlay to start with *viz.*, rupees 20-25 thousands for sheller. There is automatic arrangement for various operations and both polished and unpolished rice can be had by these machines. The output of a sheller is about 180 to 200 maunds of paddy per day of eight hours. It is understood that there are four shellers of this type in the Punjab, one at Karnal proper, two at Taraori in Karnal district and one at Sarna in Gurdaspur District.

(b) Information regarding this item is not available with the Agriculture Department of this State.

(c) Hand-pounding at one time was very common and predominent in Kangra district but there too it is now gradually being replaced by hullers.

(d) Figures relating to total estimated output by various methods are not available with the Agriculture Department.

(e) Percentage and normal recovery of rice from paddy by various methods in vogue is estimated to be as follows:—

(*i*) Hand-pounding : 28-30 seers of rice per maund of paddy

(*ii*) Hullers: 25-28 seers of rice per maund of paddy.

(*iii*) Shellers: 27-29 seers of rice maund of paddy.

COORG

Nearly 46 per cent. of the rice consumed in the State is still hand-pounded in spite of there being 31 rice mills and 8 small hullers. It is interesting to find that in this small State containing a population of only 2:29 lakhs the hand-pounding industry has been able to withstand to some extent the onslaught of the rice mills which as usual received State patronage during the control period. This is in sharp contrast to the neighbouring bigger State of Mysore where the hand-pounding industry is stated to be even less than 5 per cent. The coffee plantations also hand-pound their entire rice requirement. A class of professional hand-pounders *viz.*, Hrijans and immigrant Moplas have still survived. The Committee met representatives of these professional hand-pounders at Mercara. Near about Mercara, the number of such families was estimated to be about 500 and in Virajpet about 60. They complained that they were now being driven out of the hand-pounding industry by competition from the mills, that many of them have got other employments but they would prefer to continue their old industry, because all their family members could participate in this work and they get the benefit of the bran.

The Coorg State provided an excellent field for organising the hand-pounding industry on co-operative lines. Every village in the State has a co-operative society and many of them functioned as grain banks with their own warehouses. There was a Co-operative Marketing Federation, the President of which was examined by the Committee. The existing co-operative marketing societies advanced to a producer—member 60 per cent. of the market value of the paddy deposited by the producer in the Society's warehouse. The producer was at liberty to sell his entire paddy from the Society's warehouse or the Society sold it at the best available price. Most of the villages in the southern part of Coorg had co-operative grain bank. The banks stored the producers' surplus grain and advanced it to the members as and when they needed it. All transactions were in grains. Interest was charged at 6¼ per cent. and dividend was given upto 9¼ per cent. The President of the Coorg Co-operative Marketing Federation said that it was quite possible to organise co-operative societies which would purchase paddy, hand-pound it and sell the resultant rice at a reasonable margin in the market. But such Societies would need suitable godowns. At Virajpet it was found that the rice mills had already sufficient stocks of paddy from the previous crop, and did not yet start purchasing paddy of the new crop. Traders from the adjacent Malabar district (Madras State), were purchasing the local paddy and exporting it to Malabar where the paddy would be hand-pounded after parboiling for sale. The hand-pounders use pestle and mortar and dhenkies, and not stone chakkies.

At Ponnampet, the Committee visited the Town Co-operative Paddy Society which had a godown of its own with a capacity of 300 cart-loads. The Society accepts deposits of paddy from the producers and advances upto 50 per cent. of the value. The producer-member has discretion either to sell the paddy to the Society or to a private party. The producers are thus enabled to hold their stocks until they get better price.

COPY OF A LETTER No. A.7/15070, DATED THE 7TH DECEMBER, 1954 FROM SHRI I. C. SUBBIAH, CHIEF SECRETARY TO THE GOVERNMENT OF COORG MERCARA, TO THE SECRETARY TO THE RICE MILLING COMMITTEE, NEW DELHI.

I am directed to refer to your letter No. RMC/3/54 dated the 6th November, 1954, on the subject mentioned above to furnish the views of this State on the subject.

(1) Hand-pounding of rice, being a cottage industry gives work to a large number of people. The nutritive value of rice will not be lost in hand-pounding as in the case of milling. The poor people engaged in hand-pounding will also get some broken rice and bran. Thus in the interest of the poor people as also to check the present deterioration of health condition of the consumers, hand-pounding industry requires encouragement and expansion. A large number of mills have been established in this State during the last 15 years. Before the establishment of rice mills the whole requirement of the State amounting to about 30,000 tons of rice was being met by hand-pounding. At present mostly people in the urban areas and those residing within a short distance from the mills are accustomed to mill-rice, while others who form a major portion of the population are still using hand-pounded rice. The workers in the estates are also using hand-pounded rice to a large extent. As rice is milled on a large scale in the mills with a greater percentage of recovery of rice from paddy, it will not be possible for hand-pounding to successfully compete with the rice mills especially in the matter of price, and consequently unless some control is imposed over production of rice in mills and by hulling machines, hand-pounding industry will continue to face handicaps.

(2) The people do not like merely dehusked rice although it contains greater percentage of nutritious matter. They want rice to be polished. It does not, therefore, seem to be possible to insist upon sheller type of mills alone to be established. All dehusked rice is normally polished again before being used for consumption.

(3) The mills are required to obtain licences under the Coorg Rice Mills Licensing Order 1951 and the millowners are required to pay a licence fee of Rs. 100/ in the first instance and renewal fee of Rs. 20 per annum afterwards. It seems desirable to enhance the amount of licence fee and the renewal fee to Rs. 250 and Rs. 50 respectively although this in fact will not prevent new mills coming to existence. Power may also be reserved with the Government to restrict the number of mills to be established in any centre. Use of milled rice in public institutions such as hqpitals and hostels may be prohibited or discouraged. Levy of cess on the quantity of rice milled and its utilisation to encourage hand-pounded rice may also be considered.

The particulars called for in paragraph 4 of the letter under reference are furnished below:—

(a) There are 21 rice mills in Coorg and all of them are sheller type with huller also attached to them.

(b) The highest number of workers engaged in thise mills was 187 during the year 1953.

(c) Hand-pounding is predominant in the rural areas, particularly in Napoklu Nad, Bhagamandala Nad, Srimangala Nad, Mercara Nad and in out of the way or remote parts of the remaining Nads.

(d) Accurate figures are not available.

Approximate figures for 1954 are estimated as under:—

(i) 20,000 tons of rice, (ii) and (iii) 23,000 tons of rice.

(e) 50 per cent to 52 per cent by milling and about 45 per cent by hand-pounding.

MADRAS

The number of rice mills was largest in this State *viz.* 5957 huller mills and 126 sheller mills, although its rice production of 29·75 lakh tons per year was less than several other States. The reason for this was that during the control days this State followed a rigorous policy of monopoly procurement through the rice mills and rice was rationed from the village level. The State Government were unable to give definite figures about the quantity of paddy now hand-pounded in the State. The Director of Rural Welfare estimated it to be 30 per cent. of the rice consumed in the State. According to the statistics supplied by the State Government, about 175,400 tons of paddy in South Kanara District, 1,441 tons (1953) in Tanjore District, 2,000 tons in the Nilgiris and 1,070 tons in Tiruchirapalli were hand-pounded. In Tanjore District the quantity hand-pounded has in 1954 come down to 472 tons. In Malabar district considerable quantities of paddy were still hand-pounded, and even paddy was imported into this district from its neighbouring State of Coorg for hand-pounding. The State Government were unable to furnish figures of hand-pounded rice in Malabar District. Hand-pounded rice was produced in certain pockets of other districts also *viz.*, Bhavani and Gobi Talukas in Coimbatore, Kallupetti in Madurai. Generally speaking hand-pounding has still survived where the rice mills have not yet penetrated, where labour is cheaper and where there are social workers such as the Gandhi Niketan Ashram at Kallupetti, and Vedaranyam (Tanjore District). At Vedaranyam which is near the sea coast, hand-pounded rice used to be exported to Ceylon in olden times. Even during the control days, about 2,000 bags of rice used to be hand-pounded at this centre with Government permission, employing 600 families. In 1947, there was even a proposal for supply of hand-pounded rice produced at this centre to certain jails and Government hospitals, but it did not materialise. At Kallida Kurichi in Tirunelveli District, there is a hand-pounded rice factory, the proprietor of which submitted a memorandum to this Committee, saying that the factory is operating for the last 20 years. This centre used to hand-pound 11,200 measures of paddy (1 bag-60 measures) every month and was prepared to double its monthly outturn. The centre's present site and buildings cost nearly Rs. 10,000 and it needed a further investment of only Rs. 10,000 for which the proprietor asked for Government aid.

Certain factors in this State, were favourable to the revival of the moribund hand-pounding industry, if they were handled by the State with a determined policy. Almost every district has a central Co-operative Store having a large number of primary Stores affiliated to each, which functioned as appointed wholesalers and retailers for rationed commodities during the days of control and did very large business in milled rice. Even now these Stores are supplying milled rice to industrial concerns, Government institutions etc. The Secretary of the Central Co-operative Stores at Coimbatore expressed the view that it would be quite possible for this Central Co-operative Stores to organise hand-pounding and sell hand-pounded rice to their constituents. There are in this State a number of social welfare institutions such as the Gandhi Niketan Ashrams, the Gandhi Vidyalayas, the Sarvodaya Centres etc. which were hand-pounding their own requirements of rice and doing propaganda for hand-pounding in the villages. The Committee visited the Gandhi Niketan Ashram at Kallupetti where wooden chakkies were being manufactured and sold to villagers and National Extension Centres. The Committee also visited a Sarvodaya Centre at Tanjore and a Basic School Centre at Kilamungalavi Taluka in South Arcot District. At the latter centre the resident students, both boys and girls, hand-pounded their entire rice requirements. At Cuddalore Central Jail 5,000 pounds of paddy are still being hand-pounded per year with prison labour. The Superintendent of the Cuddalore Central Jail in a written Memorandum to the Committee reported that for three years during the control period the Cuddalore Central Jail was supplied with approximately 67,600 pounds of hand-pounded rice every year by the local Co-operative Stores. During 1949-50, 1,80,000 pounds of rice were hand-pounded per year in the Central Jail of Cannanore (Malabar) with prison labour for jail consumption. There are a large number of temples in the State under Government control, whose heavy requirements could be met with hand-pounded rice. Besides temples, there were also a large number of Chatrams or Choultries which formerly used to be run by the estates of ruling chiefs and big private land-lords for providing free board and lodging of pilgrims and travellers. These institutions formerly used to meet their requirements with hand-pounded rice but now it is all milled rice. The advocates of hand-pounding expressed the general view that it should not be difficult for this State Government to create a demand for hand-pounded rice through the above institutions and agencies. The Committee during their tour of Madras State visited Coimbatore, Madurai, Tanjore, Chidambaram, Cuddalore and Madras. They also visited some rural hand-pounding centres. At Madras the Committee met the Ministers for Food, Agriculture, Industries and Health, Member, Board of Revenue and the Food Commissioner, Director of Agriculture and some other officials and non-officials. The State Government's views were in favour of not issuing further licences to new mills and for restricting the production of existing mills in order to encourage hand-pounding. In some areas where hand-pounding was still done on a considerable scale, for instance South Kanara, the State Government were in favour of completely banning rice mills. The Minister for Agriculture and Industry was in favour of stopping any new licences to rice mills and gradually eliminating the existing mills. The Madras State Government had

an Act of its own for the licensing of rice mills. Under this Act, rules have been framed restricting the mills to a single polish and the State Government are trying to enforce it. The Minister of Health was in favour of supplying the Government hostels and jails only with hand-pounded rice. In fact in the Cuddalore Central Jail rice was hand-pounded with prison labour. The State Government during the control period stopped issuing new licences for rice mills. After decontrol a large number of applications for new licences were pending with the District Officers who were the licensing authority. On a reference by the State Government, the Food Ministry of the Government of India replied that the State Governments had discretion to refuse new licences for huller type rice mills. But curiously enough a large number of new licences for the huller type were still being issued. In the district of Chingleput alone as many as 500 new licences for huller type rice mills were issued recently and more were being issued as a matter of course. The Committee had already written to the Food Ministry to advise all State Governments not to issue any new licences for rice mills, pending the Committee's enquiry. During their Madras tour, the Committee sent a reminder to the Ministry to issue immediate instructions to this effect to the State Governments. The Committee pointed out the above state of affairs to the Minister for Agriculture and industries of Madras. He promised to issue instructions to his officers not to issue any new licences for rice mills.

COPY OF LETTER NO. 7437-AII/55-9, DATED 4-3-55 FROM THE SECRETARY TO GOVERNMENT OF MADRAS, TO THE MEMBER-SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE (FOOD), NEW DELHI.

SUB:—*Civil Supplies—Rice Mills—Rice Milling Committee appointed by Government of India-Views of Madras Government on certain matters relating to Committee's subject of enquiry furnished.*

Ref:—Your letter No. R.M.C./3/54, dated 6-11-54.

I am directed to invite your attention to the letter cited, in which the Rice Milling Committee has called for the remarks of the Madras Government on the following points:—

(i) Whether they think it necessary to exercise any control over production by rice mills and husking machines and, if so, what measure they would propose for the purpose of such control;

(ii) what is their view regarding protective measures like reservation of spheres of production and imposition of a cess on the mill sector; and

(iii) the extent to which production by hand-pounding can meet the total rice requirements of this State and what measures this Government propose in this connection for reorganisation and expansion of hand-pounding.

2. I am to state that the hand-pounding of rice is generally advocated from two angles—nutritional and employment aspects. The Madras Government consider that the reversion to the old form of hand-pounding by the use of pestle and mortar, the entire process being manual, is not feasible and can never possibly be revived. It cannot certainly meet the rice requirements of this State to the exclusion of the rice mills. What should, therefore, be admitted is probably the encouragement of cheap and small decentralised units as reported to be functioning in Japan working with mechanical power or with human power. The nutritional aspect does not require that we should go back to the old form of hand-pounding *in toto*. Small units suitably designed could prevent the damage to grain as well as the removal of undue portions of the grain and the germ.

3. With reference to point (i) in para 1 above the Madras Government's views are as follows:—

> It will be necessary to have control over the establishment and working of the rice mills (ii) The size of the units should be restricted except in specified areas meant for preparing rice for supply to large scale urban centres, (iii)Mechanical control on the process by insisting on machines on the 'sheller' principle as against 'hullers' will also be necessary (iv) Power to reject applications on the ground that additional units are not necessary or expedient in any area should also be taken and this might take the form of total exclusion in specific areas like South Kanara District, where hand-pounding is still largely prevalent and is able to meet the local needs. (v) The licensing of new rice mills in villages may be banned.

4. The Madras Government consider that it is not a workable proposition to reserve spheres of production and that the restriction on the size and the encouragement of very small units in rural areas might have the effect of ensuring that the rice required for the rural areas is made in small machines, which would employ proportionately larger number of people and at the same time produce rice of high nutritional content. They are also of the view that the imposition of a cess on the mill sector does not appear to be workable, as it will inflate the milling charges.

ORISSA

The total rice production of this State in 1951—53 was 22·27 lakhs tons, of which 90 per cent. was hand-pounded. There were 88 automatic huller type mills which milled rice chiefly for export amounting to a little above two lakh tons per year. This State has along with Bihar the distinction of producing the highest percentage of hand-pounded rice in the whole of India. The density of population is low, 244 per square mile, but many areas are undeveloped and there is no cash crop except paddy. Another distinctive feature of this State is that, unlike other States, during the days of control about half of the rice procured by the Government was hand-pounded

rice. In Sambalpur district which was the largest rice producing tract in the State, there were only 3 mills, and the rice exported from this district was mostly hand-pounded. There were no rice mills in four out of the 13 districts.

This State by producing 90 per cent. hand-pounded rice, demonstrated the capacity of hand-pounded rice to meet the entire requirements of the State.

COPY OF LETTER NO. 4388 I.VII-IND-63/65 DATED 6TH MAY 1955 FROM SHRI A. G. MENON, SECRETARY TO GOVERNMENT OF ORISSA, INDUSTRIES DEPARTMENT TO SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD & AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI.

SUBJECT:—*State Government's Views on Control of Rice Mills etc.*

I am directed to invite a reference to para 3 of your letter No. RMC/3/54, dated the 6th November, 1954 addressed to the Chief Secretary to Government of Orissa on the subject noted above. The views of the State Government on the various points raised in the above letter are as follows.

2. The State Government are of the opinion that it would be necessary to make statutory provision to control Rice Milling and Rrice Husking. The State Government propose that this may be done under a Central Act of the same nature as, say the Industries (Development and Regulation) Act of 1951.

3. The State Government are impelled to make the above recommendation primarily for the reason that the question of whether or not, any portion of the rice produced in a State should be milled depends on various apparently contradictory factors. There would appear to be no doubt that for home consumption, within the State, hand-pounded rice should be exclusively used not only for the increased nutrition value of such rice but also in order to provide gainful employment to a section of population-women, mostly widows—who would not otherwise be employed. On the other hand for a State like Orissa which produces a large surplus of rice, it would be essential, in order to be able to obtain and keep markets, to produce rice of standard quality, which would only be possible by processing in mills.

4. The necessity or otherwise of Rice Mills would therefore appear to depend on whether they are being set up for the purposes of meeting the export market or for home consumption. As already stated, the State Government is of the opinion that milled rice should not be allowed for home consumption. The conditions regulating the export market may very from period to period and the only practical way of exercising the necessary control in this matter would appear to be to adopt the same methods as have been adopted in the case of scheduled industries under the above mentioned Act, *viz.*, to exercise control over setting up new mills and production of existing Mills by issue of licences.

5. Regarding reservation of spheres of production, the State Goverment's views are, as stated above, that Mill production should only be allowed for export purposes. Regarding the imposition of cess on Mill produced rice, state Government are of the opinion that on the analogy of Mill made cloth and for the period of transition from an agricultural economy to an industrial economy or in other words for the foreseable future, it is necessary to impose a suitable cess on the production of Mills, to utilise the revenue so obtained for encouragement of hand-pounding.

6. Regarding the extent to which the total rice requirements of Orissa, can be made by hand-pounding, I am directed to say that at present hand-pounding meets nearly 90 per cent. of the needs of the people of the State and the State Government feel that with proper organisation of the industry by the Co-operative method is should be possible to ensure that 100 per cent. of the consumption of rice in Orissa is of the hand-pounded variety, resulting in increase nutrition and more employment allround. Co-operative Organisation would reqiure establishment of Co-operative Societies for the purchase, storage and hand-pounding and sale of rice. As with other kinds of co-operatives the tempo of development would depend on the availability of adequate capital resources and trained staff for management of co-operatives. It would be necessary to conduct training courses for managers of such co-operatives and also to provide capital to co-operative banks for financing societies. This is where the cess recommended above would appear to come in useful.

7. Further information required by the Committee in paragraph 4 of the above quoted letter has been incorporated in the memorandum submitted to the Committee by the Director of Industries on behalf of the State Cottage Industries Board. A copy of the memorandum is enclosed for ready reference.

8. As regards the information required by the Committee in their letter RMC/P/10/55 dated the 20th January, 1955, I am to say that information is not readily available and is being compiled and will be communicated to the Committee shortly.

MEMORANDUM SUBMITTED TO THE RICE MILLING ENQUIRY COMMITTEE OF THE GOVERNMENT OF INDIA ON BEHALF OF THE COTTAGE INDUSTRIES BOARD, ORISSA.

The All India Khadi & Village Industries Board has already produced a Brochure on hand-pounding of rice, and the Cottage Industries Board, Orissa, is in general agreement with the views expressed therein.

Some relevant figures are, however, submitted herewith:—

The approximate annual consumption of rice in Orissa computed on the basis of one lb. of rice per day per head amounts to 23,83,450 tons. Besides, the export has been in the region of 2,42,000 tons per annum. The production figure of rice in Orissa in 1952-53, as compiled by the All India Khadi & Village Industries Board is 33,66,000 tons while our computed figures are in the region of 26,00,000 tons of consumption and export which would show that our figures are calculated on a conservative basis.

Statistics obtained from the Civil Supplies Department show that the quantity of rice milled in 1953 amounted to 2,63,400 tons which is comparable to the amount exported outside the province *i.e.* 2,42,000 tons. The balance of rice produced in the province was by means of hand-pounding, and these figures leave little doubt that milled rice plays a very small part in supplying the needs of the people of Orissa. The location of Mills districtwise is given in the following table which also shows the number of workers employed:—

District	No. of Mills	Daily workers employed
1	2	3
Cuttack	5	293
Sambalpur	3	100
Ganam	10	216
Pur	6	419
Kalahandi	7	142
Balasore	40	3267
Koraput	24	342
Mayurbhanj	5	264

The number that finds employment in this industry is not more than 10,000 at a very liberal estimate, while the number of employed in the hand-pounding industry is not less than 10 lakhs both whole-time and part-time. Of the 13 Districts in Orissa, 5 Districts have no Rrice Mills at all, and depend on hand-pounded rice entirely.

It is a matter of common knowledge that the local people do not prefer mill rice which is relished only in twons where a taste for this rice has been created by enforced use of mill rice on account of non-availability of hand-pounded rice.

100 Rice Mills in Orissa contribute less than 10 per cent in the processing of paddy, but hullers in the coastal districts which produce rice similar to hand-pounded rice have been established in large numbers. Accurate statistics of hullers are not available on account of removal of licence and some of them have thrived on account of labour to industries and also due to increased agricultural activities mostly in the form of additional crops like jute, etc. requiring assistance from women which does not leave sufficient time to women for hand-pounding. It is apprehended that with the introduction of electricity in the interior, establishment of hullers by private enterprise will be rapid. It is needless to say that this would seriously hamper the existing hand-pounding industry adopted extensively in the interior. Considering the necessity to give part-time employment specially to the women folk of cultivators in areas where agriculture does not give full time occupation, it seems desirable that the hand-ponding industry should be conserved free from competition from either hullers or mills. This should enable women to work in their own homes specially during the off-season.

Experiments made by the Cottage Industries Board show that the yield of rice by the hand-pounding process varies from 65 to 71 per cent. as compared to 64 per cent from mills, the latter figure being based on the published statistics from the Directorate of Industrial Statistics, Government of India from 1947 to 1950. With proper organisation, the quality of production can be standardised and large quantities of rice obtained from co-operatives. To cite one instance, the Sundargarh Multipurpose Co-operative Society supplied 2,000 tons of rice in 1953.

Organisation of co-operatives would primarily require sufficient working capital to ensure supply of paddy to the hand-pounders throughout the year, proper storage facilities both for paddy and rice and organised marketing ensuring a fair price to the consumers.

This Memorandum is submitted to the Rice Milling Enquiry Committee for favour or agreeing with the general policy outlined by the All India Khadi & Village Industries Board and making specific recommendation for Orissa to conserve and propagate the hand-pounding industry in Orissa and save it from competition from either hullers or mills. The above remarks are applicable to pulses which is practically a hand-pounding industry to the extent of 100 per cent.

With the above specific findings from Orissa, the Cottage Industries Board agrees with the recommendations of the All India Khadi & Village Industries Board.

BIHAR

In Bihar, rice is grown all over the State. The main rice areas lie to the North of the ganges in the Champaran, Muzaffarpur and Dharbhanga districts. According to the statement furnished by the State Government, rice production in the State in 1953-54 was 42 lakh tons. According to the State Government, 98 per cent. of the total rice production in the State is hand-pounded. The State imports about 2 lakh tons of rice per year including 70,000 tons from Nepal. The bulk of the paddy consumed by the Mills consists of imported paddy from Nepal. It was stated that next to the Travancore area, where mills were banned during the control period, the highest percentage of hand-pounded rice was produced in Bihar. There are 148 mills and 620 small hullers in the State. Of the 148 big rice mills, 146 are huller and are sheller.

2. It is stated that there are no exclusive centres for hand-pounding as such; growers produce hand-pounded rice not only for their own consumption but also for sale of the surplus rice in local mandies. Besides, there are professional dehuskers in each and every village who buy paddy and dehusk it and sell the rice to make a living out of it. Almost any area can be called a small hand-pounding centre. Asargang (Monghyr) has an organisation which undertakes large scale hand-pounding. Areas where mills are few and far between may perhaps be regarded as hand-ponding centres. *i.e.* Chotta-Nagpur and Santhal Parganas in South Bihar and several areas in North Bihar. According to the memorandum received from the State, nearly 98 per cent. of total produce is hand-pounded.

3. Bihar is the only State where the State Legislature adopted resolutions recommending suspension of new licences to mills and closing down the existing rice mills within a period of four years and the imposition of tax on rice mills during this period. The implementation of this resolution was said to be awaiting the recommendations of this Committee. It is, however, understood that draft legislation on the subject forwarded by the State is already pending consideration with the Ministry of Food & Agriculture of the Government of India. The large quantity of hand-pounded rice which comes to the market finds its way to big industrial centres like Jamshedpur and Jharia where it is understood no milled rice is consumed. In other words, besides the rural areas, important industrial areas, are also adequately served by a liberal supply of hand-pounded rice from within the State.

4. The Committee visited a multipurpose Co-operative Society at Balwapur where hand-pounding is done by its members, and two other rural centres one at Makdumpur and another at Sikarpur. At Balwapur the Committee found a bullock driven huller, which produced 10 mds. of rice per day. The huller cost Rs. 75 and was driven by a pair of bullocks in two shifts.

GOVERNMENT OF BIHAR

Memorandum for the Rice Milling Committee, Government of India

I. *Background of Rice Milling in Bihar*

In milling by power, two main types of rice milling machinery are in use in Bihar—huller and sheller. The former being cheaper and simpler is largely in use—the latter being expensive, complicated, self-contained, automatic and of later model are not much in use—hardly one or two.

In Bihar there are 148 rice mills registered under the Factories Act, scattered throughout the State and mostly in or around the surplus rice growing areas.

There being only a few sheller type mills, the calculation of total crushing capacity has been made on huller basis only—one sheller being taken as equivalent to five hullers. The total number of hullers, thus arrived at, is 620 and crushing capacity of one huller is 1,500 maunds per month and the crushing season extends to 7 months in the year, at the outside.

Milling on hire is also a common feature of the rice trade in Bihar and a large number of small mill-owners (mostly one-huller units) do not trade on their own account but hire out their mills to those who wish to have their paddy hulled or rice polished, on consideration.

The total production of rice in Bihar is of the order of 36 lakh tons on the average in a year and the total annual milling capacity of all the rice mills is about 1½ lakh tons. The quantity actually milled since the declaration of war hardly exceeded one lakh tons

only or has been much less owing to the fact that a number of mills were closed for various reasons, some for the whole season, others for long periods, while many operated for a few months only when the paddy arrivals were large.

More than two-thirds of the total output of milled rice are produced by the mills on the Nepal border from Champaran in the west to Purnea in the east and the bulk of the paddy consumed by these mills is from inside Nepal. Due to the numerous restrictions imposed during the controls in Bihar many of the mills shifted inside Nepal, which is foreign territory, and the process is still continuing. It has been found in practice that the mills situated along the Nepal border are a much more reliable and effective agency for procuring Nepal paddy (and rice as well) and bringing them into Bihar, than any Government agency whatsoever, even in times of blockade by the Government of Nepal.

The rice mills as a whole played one of the most important parts in Government's procurement schemes during the controls, for they were the "bottlenecks" through which paddy, except in so far as it was hand-pounded, passed in order to emerge as rice. Their effective utilisation was to the best advantage of Bihar so far as procurement was concerned. Procurement of hand-pounded rice was restricted in the sense that only 27 per cent. of its total production comes on to the market and the rest is consumed within the State itself in areas adjacent to the areas of production. Whereas the entire output of the mills is put on the market and can, and used to be, acquired in times of emergency. It is surmised that even in normal times about 87 per cent. of the mills production enters commerce.

It appears that the tendency for a number of years past has been for machine milling to increase, indications of the past two decades lead to the conclusion that, along with development of some other industries and social changes, the rice milling industry has grown fairly rapidly. The rate of expansion has, however, slowed down in the recent years and is likely in future to be more gradual rather than phenomenal. The expansion, now, is expected to be proportionate to the change in the rice eating habits of Indians as a whole, which is always a slow process.

Husking of paddy by hand is a village industry of considerable importance in the rural economy of the country. Roughly one half of the market arrivals is produced by manual labour in the villages. The Bengal Famine Enquiry Commission, 1943 and recently the Planning Commission, attached great importance to the maintenance and expansion of village industries. Hand-pounding of rice is a small industry specially suited to the rural conditions in the State, it provides employment for a large number of landless persons, professional dehuskers and also serves as a subsidiary means of livelihood for the small cultivator. The Commission strongly recommended that in any plan for increasing the total output of rice, the existence of this very important village industry should not be overlooked.

So far as the object of affording further employment to the rural population in the hand husking industry in this State is concerned, at present more than 95 per cent. of the local paddy—including imports from Nepal—is being handled by them. If the imports from Nepal are excluded only about 2 per cent. of the local produce is being handled by the mills.

The establishment of new rice mills during the controls was difficult if not impossible. In those days many mills had to close down owing to scarcity of replacements of spare parts of their machinery. On the other hand, the hand-pounding industry continued to flourish providing employment to the same number of persons as before. There was no question of competition between the two industries, milling and hand-pounding; rather they continued to exist, each as complementary to the other, as their total production did not suffice for the entire population of the State and the extinction of one at the cost of another would have led to reduction of the total production and availability. Consumer preference in respect of hand-pounding or milled is not very relevant in a State which had to lean heavily on imports from outside to meet her commitments.

II. *Examination of the working of the different types of Rice Milling now in vogue in the country from:—*

(a) *The technical aspect.*—The huller type of machinery is almost exclusively used in Bihar—mainly due to its simplicity and cheapness as opposed to the costlier, complicated, automatic and the more modern sheller type. The existing mills do not use any polishing contrivance, whatever polish is imparted on the rice is done by passing the grain twice through the hullers, resulting in higher proportion of breakages. The sheller type is more economical and desirable in the long run; it would not be practicable to replace the existing huller types by the sheller types all at once; if at all, it will have to be a gradual process. Early in 1951 at the instance of the Government of India some mechanical adjustments such as (i) reduction in revolution of hullers to 450 per minute, (ii) closing the outlet-side of the huller, and (iii) introduction of the paddy separator, were ordered to be made, but owing to a chorus of protest from the industry, it was held in abeyance till the prospects of the industry improved.

(b) *Nutritional aspect.*—In July 1944 Government of Bihar had passed the Bihar Rice (Quality Standards) Order 1944 prohibiting any process of milling which removed more than half the skin or cuticle from the paddy. As a result none of the Bihar rice mills have any polishing contrivance attached to their milling machinery. That the hand-husked rice is richer in vitamin content than the milled is not contested. Again among the milled rice the parboiled variety is more nutritious than raw. In Bihar very few mills produce raw or arwa rice.

If again the milled rice is not polished and the red coating or cuticle is left intact on the grain in the milling process its vitamin content is unimpaired and food value equals that of the hand-pounded variety. But when in 1951 the mills reduced the revolutions to 450 per minute and produced a variety of coarse grain it;

was unacceptable to the consumer and would not sell, so the mechanical adjustments were not enforced and the question did not crop up again.

These changes if persisted in would have brought the machine milled article on a par with the hand-pounded and met the objection to the former from nutritional standpoint and would at the same time have made it cheaper than at present.

Thus the Report on Agricultural Marketing of Rice in India, "The fact that research has established the superiority from the nutritional aspect of lightly or undermilled rice as compared to the highly polished article, has in recent years and in some quarters led to the somewhat indiscriminate recommendation to consumers to use undermilled or hand husked rice.

The suggestion has even been made that the mills should be restricted to turning out very lightly-milled rice only or in the alternative be compelled to shut down. Those responsible for such proposals seem to overlook the fact that some thing like 73 per cent. of the rice produced and consumed in India is hand husked. Thus a very considerable proportion of the crop is consumed in a form which cannot be bettered in respect of nutritional value". In Bihar 98 per cent. of the rice produced and consumed is hand-pounded.

(c) *Consumer preference aspect.*—Nearly three-fourths of the total rice grown and consumed in India *i.e.* 19:4 million tons is husked by hand and the bulk of it is done by the primitive contrivance known as Dhenki (pestle and mortar).

Over 87 per cent. of the rice produced by the mills is put on the market and consumed whereas only 26 per cent. of the rice produced by hand-pounding is disposed of by sale. The small cultivator or grower brings in his surplus hand-pounded rice to the village hitia or assembly markets and is bought and consumed by the non-producing rural dwellers, very small quantities find their way to the urban areas. This points to the fact that there is some demand for the milled article mostly from the non-producers who have to buy rice, chiefly on account of its cheapness as compared to the hand-pounded rice; and to those who have to buy rice—landless people and industrial population—this is an all important consideration; for, the majority of these rice eaters possess very limited means. The vitamin content of the milled rice is at least equal to the hand-pounded as at present produced by the Bihar mills.

In a rice deficit State like Bihar, mostly dependent on imports from outside—even in normal times, it is difficult to assess correctly consumer preference. It is perhaps safe to assume that the richer sections among the dwellers of urban areas prefer better quality highly polished milled rice and those of the lower income groups prefer milled rice to the hand-pounded because of its cheapness and smaller percentage of brokens.

During controls, the bulk of the imported rice was milled, the question of consumer preference did not arise: being a deficit State,

she had to accept whatever was available. Even in normal pre-war days, there is, no doubt, that the imports by rail and river from Burma, Western districts of Bengal, Orissa and C.P. were of the milled variety. Hand-pounded rice was brought in small quantities in head-loads and perhaps by carts to be sold in the nearby assembly markets, and of these imports we have no recorded statistics.

There is, no doubt, that the hand-pounded rice is liked and consumed by the bulk of the people but at the same time it cannot be denied that there is a minority who prefer fine milled rice and still another minority, of lower income groups, who prefer the cheap milled rice.

(d) *Economic aspect.*—In the present context of industrialisation of the country, it is difficult to see how the food processing industries can be totally eliminated. Only two aspects *viz.* diminution of rural employment by labour saving appliances and production of devitalising rice operate against the rice milling industry. This can be considered only in the context of their further expansion, which will accentuate rural unemployment, therefore, any expansion to such an extent as will militate against rural employment should be prevented at all costs. But the position at present is not so acute as to call for such drastic action as the closure of existing mills and specially as the lakh maunds or so at present handled by the mills if released for hand-pounding will not materially affect the rural employment one way or the other.

The rice milling industry, firmly established as it is, cannot be dislodged and has come to stay, people have made large capital investments in their establishment and in renewal and replacements of parts thereof.

In Bihar the mills play a definite and important role in the economy of the State specially in the areas north of the river Ganga, where they constitute the only well organised body which can acquire bulk of the Nepal paddy, about 75,000 tons of which are known to come across the border into Bihar in normal times and play a significant role in the Food Economy of Bihar.

(e) *Employment aspect.*—The Planning Commission has remarked that introduction of rice mills of the huller type has diminished employment and is wasteful in various ways. In the peculiar situation obtaining in Bihar where only 2 per cent. of total production handled by the rice mills, the elimination of the existing mills does not hold out any bright prospect for a large-scale rehabilitation of rural industries which are already engaged with 98 per cent. of the total paddy produced.

The mills employ about 3 to 4 thousand skilled and unskilled labourers. If the mills are closed these will lose their jobs but this will be compensated by the people who will find employment in the dehusking of paddy thus released. It is difficult to assess with any degree of accuracy the effect that the closure of existing rice mills will have on the employment question. It can be safely said

that it will not bring about any phenomenal or large scale rehabilitation of the rural industries one way or the other.

(f) *Constitutional aspect.*—Though not mentioned in the terms of reference, State Government think that the question should be considered from this aspect as well.

The food processing industry is an established industry and occupies a distinct place in the food economy of the country. Their owners as a class cannot be deprived of their lawful means of livelihood and forced to close down on more or less sentimental grounds. Their machinery or other assets cannot be forfeited without adequate compensation or statutorily put out of action, and forced to be depreciated in value. These people have their constitutional right to exercise their profession without let or hindrance and cannot perhaps be discriminated against as a class, without violating the Constitution. If however, their finished products are harmful to the consumers thereof they can be proceeded against under the ordinary laws of the land and prevented from producing them or compelled to produce improved products free from harmful effects.

There is also the aspect of consumer's preference, those who prefer the milled rice in spite of its alleged devitalising effect have the Constitutional right to demand the continuance of its production and supply as heretofore. In any way, the machine hulling of paddy by the numerous small mills working on hire on cottage industry scale in rural areas will continue and the milled rice produced by them will not be in any way different to that of the larger rice mills.

III. *Whether it is necessary for the encouragement of the hand-pounding of rice to control the production of mills—if so, what measures are necessary.*

(1) In Bihar at present the proportion of total local produce of paddy handled by the hand husking and machine husking industries are 98 to 2 respectively. The total crushing capacity of all the mills taken together would not enable them to handle more than 1½ lakh tons in one year, out of a total average produce of 36 lakh tons. Therefore, it is the view of the State Government that the encouragement of the hand-pounding industry need not be made at the expense of the rice milling industry—rather all the encouragement that need be made can be effected in spite of the existence of the mills—as there is virtually little or no competition at all between the two in the acquisition of paddy—the mills buy the paddy that is surplus to the requirements of the growers and consumers.

The hand-pounding industry can be organised on a co-operative basis or as public limited concern or collective farm, or on the Mysore model. A paddy separator can be introduced and the hand huskers can be taught improved technique and the efficacy of separating paddy from husked rice after 80 per cent. has been husked to avoid risks of high breakages in the outturn.

The marketing side can be perfected so that the producers can get cash in advance to meet their urgent commitments and their

produce can be marked at the best obtainable price and not in a hurry as the individual producer is apt to do.

In Bihar, at least, it will perhaps serve the purpose if the establishment of new mills is prohibited and if some sort of control is considered necessary in other States it can be done in West Bengal, C.P., Bombay or Madras where the mills' outturns are 16 per cent., 30 per cent. 55 per cent. and 62 per cent. respectively out of their total produce of paddy.

Opening of new rice mills can be stopped and control over production of existing mills can be exercised by vesting the State Government with powers to regulate and control the opening of new rice mills and production of existing mills by issue of licences and registration of existing mills under the provisions of Essential Supplies (Temporary Powers) Act or similar Acts to be enacted by the State Governments after the expiry of the term of the Essential Supplies (Temporary Powers) Act, 1946.

(2) *Adoption of protective measures like reservation of spheres of production and imposition of a cess on the mill sector.*—In Bihar, as stated earlier, grower produces his own rice by hand at home and brings the surplus paddy to the market wherefrom it is acquired by the mills or their agents or by the wholesalers. This takes place in all areas irrespective of the fact whether there art mills or not situated therein. The State Government consider, therefore, that it is well nigh impossible to reserve or divide into watertight compartments spheres for the mills and hand-pounders. They are so intermingled that their activities cannot be confined into separate well defined zones.

It has also been stated earlier that in Bihar the mills are scattered throughout the State but mostly in or around the surplus rice growing areas, where they can acquire sufficient paddy from the marketable surplus of the growers in and around their locality.

The only exception is the cluster of mills on the Bihar side of the Nepal border which are not particularly rice surplus areas. These utilise almost exclusively the Nepal paddy crop. Deficit districts like Hazaribagh and Palamau have none, Ranchi, Singhbhum and Manbhum (including Dhanbad) 2, 4 and 4 mills respectively, Saran 3 and Santhal Parganas 8 only.

If any all India legislation is contemplated it should be optional for the States to enforce such provisions of it or in its entirety as may be considered necessary, suitable to the local conditions of each.

As regards levy of a cess on the produce of the mills, it has to be remembered that as they are already paying the usual taxes on their income and sale etc. any additional tax or cess will be passed on to the consumer in the shape of an increase in the price of their rice, which will constitute a real hardship on the poorer section who buy milled rice for their comparative cheapness The number of rice mills in the State is very small and most of these rice mills have inadequate resources. The amount of profit made by them is also believed to be very small. It is, therefore, not considered necessary to impose any cess on the rice produced by the mills

with a view to equalising the price of hand-pounded rice and milled rice. It is also not considered necessary to impose cess on the rice produced by mills with a view to developing hand-pounding sector. The income from any such cess will be small and will not be sufficient for organisation of hand-pounding section.

(3) *The extent to which hand-pounded rice can meet the total rice requirement of the State and the measures State Government may like to propose for the organisation and expansion of hand-pounding.*—The Gregory Committee 1943 reported that "Bihar is a deficit State in respect of food supply and the average aggregate imports of five foodgrains for which rail and river borne statistics are separately available being about 2,75,000 tons a year made up as follows:—

Grain	Imports (+) (tons)	Exports (—) (tons)	Net imports (+) or exports (—) (tons)
Rice	229,000	—26,000	+203,000
Wheat	107,000	26,000	+81,000
Jowar, Bajra	4,000	..	+4,000
Gram	12,000	25,000	—13,000
			+275,000 tons

[Source Gregory Committee Report, 1943]

The normal pre-war sources of supply of rice were Bengal, Calcutta, Burma, Madhya Pradesh and Orissa. In the 4 years 1937-38 to 1940-41, the average annual net imports of rice into Bihar by rail and river were as follows:—

From	In '000 tons
Bengal	120
Calcutta (Burma)	27
Madhya Pradesh	28
Orissa	28
	203

[Source Gregory Committee Report, 1943]

It will be seen that 98 per cent. of the hand-pounded together with 2 per cent. of milled rice out of the total local produce as well as 2,03,000 tons of rice imported from beyond her borders and 73,000 tons of rice out of Nepal crop used to meet Bihar's apparent rice requirements without taking into account the import in small headloads and by road from Bengal, C.P., Eastern States and Orissa etc. There are no recorded statistics of these as well as of the proportion of hand-pounded and milled rice among imports.

It is known, however, that Burma rice was entirely milled and possibly all the imports from neighbouring States were milled. During the controls when Governments assumed the responsibility of procurement and feeding the people, imports upto their known commitments were made from the Central Pool of the Government of India which most probably have consisted of milled rice from

overseas or other States. In spite of the fact that almost everybody preferred hand-pounded to the milled rice, sufficient quantities of hand-pounded rice could not be made available and people were forced to buy whatever was available; milled rice being better than no rice at all.

State Government would, therefore, suggest that the whole purpose will be served by vesting the State Government with the powers to regulate and control rice milling industry including the opening of new rice mills or power-driven single units hullers and control over the existing rice mills by issue of licences and registration of existing units.

Production of highly polished rice and arwa (raw) rice may be statutorily prohibited. The exact degree of under-milling with a view to conserve food value of rice may also be statutorily determined and specified.

The improvements and innovations suggested by Shri S. Verma of the Ministry of Food and Agriculture in July, 1950 *viz.*—

(1) Reduction of the revolutions of No. 2 type hullers to 450 revolutions per minute;

(2) Closing of the outlet side of the huller by a plain iron sheet; and

(3) Introduction of paddy separators, be enforced statutorily. This will increase the percentage of recovery of rice from paddy and reduce the percentage of brokens.

As regards organisation and expansion of hand-pounding, the Government of Mysore sponsored in 1939 the floatation of a company designed to produce and market hand-pounded rice in that State. Steps may be taken to organise Dhankutas into co-operative societies and after this has been done they may suitably be assisted by Government so that they may replace rice mills as far as possible.

Even in the process of dehusking by hand, separation of paddy from pounded rice after about 80 per cent. of the grains have been shelled may be enforced through co-operative paddy hand-pounding and sales society amongst their members and through them to the rural areas. People will readily take to it when they see that it reduces breakages and increases outturn. This will not require any mechanical contraption but can be done by "supa" till such time as co-operative farming is introduced and tractors, sowing, reaping, and winnowing machines are installed in the villages.

(4) *Note on non-official resolutions adopted by both the Houses of Bihar Legislature.*—In July 1953 one non-official resolution moved by Shri Ankura Ho, M.L.A., about gradual elimination of rice mills was adopted. It recommended:—

(i) no new rice mill be allowed to be established.

(ii) the production of existing mills be controlled and reduced progressively so that they may close down within 4 years.

(iii) mills other than rice mills be not allowed to mill rice.

(iv) rice mills be taxed further.

(v) Government supply should entirely consist of hand-pounded rice.

(vi) Government paddy should not be milled but hand-pounded.

(vii) Union Government be requested to take similar action in the rest of the country.

After due deliberation Government decided to oppose the resolution.

In the Legislative Council also a somewhat similar resolution was moved by a non-official Shri Brij Bihari Prasad, M.L.C. Government decided to oppose this also.

Both the resolutions were apparently inspired by idealistic considerations and also as the result of the notoriety gained by the trade and the milling industry during controls and also on account of sympathy felt for the revival of cottage industries.

These aimed at (a) protecting the people from the devitalising effects of eating milled rice and (b) rehabilitating the rural industries. The practical difficulties as also the obvious ineffectiveness of the resolutions were pointed out in the floor of the Houses but they were duly adopted.

The recommendations made were thoroughly examined by the State Government and it was found that the implementation thereof could not achieve the objects aimed at.

State Government issued orders tentatively stopping the establishment of new mills only and decided to await the findings of committee set up by the Government of India to enquire into the whole question of rice milling in general.

Items Nos. 5 to 7 of the above recommendations have no longer any bearing on the present question as with the removal of control procurement on Government account has ceased and Government have no stocks of paddy to supply except for purposes of relief in any emergency.

The items 1 to 4 can, however, be implemented under powers vested by the Central Foodgrains (Licensing and Procurement) Order, 1952 or a similar State legislation as may be decided upon.

Summary of notes and recommendations

1. Bihar's own production falls short of her food requirements and she has to lean heavily on imports from beyond her borders for filling up the gap. Bihar's average annual production of rice is of the order of 36 lakh tons out of which about 98 per cent. is husked by hand and about 2 per cent. only is milled by machinery. Imports to the tune of 2,03,000 tons of rice used to come into Bihar by rail and river in normal times. The proportion of hand-pounded and milled, in the imports are unknown. This figure does not

include imports by headloads, and by road, since no reliable figure, in this respect is available.

2. Rice milling and hand-pounding are not confined to separate well defined zones or spheres. Almost each and every grower of paddy, big and small, converts his paddy into rice by hand up to the extent of his requirements, and sells the surplus, both rice and paddy in the markets. Rice mills secure this surplus paddy. Professional dehuskers also buy paddy from goladars (wholesalers) for hand-pounding.

3. There are numerous small mills on hire, generally one huller units, worked by power, in the rural areas who mill customers' paddy for consideration, and do not trade on their own. There are composite mills also which crush wheat, dal, oil-seeds etc. and have one huller installed for working on hire only.

4. It is true that a majority prefers hand-pounded to milled rice but the existence of a small minority who prefer highly polished milled rice of good quality, cannot be denied. There is still another minority who prefer milled rice because of its relative cheapness and lesser proportion of brokens.

5. The question of encouraging of milling *vis-a-vis* hand-pounding rice industry is not perhaps relevant in Bihar as compared to Madras, Bombay, M.P. or West Bengal where the mills' output is 62, 55, 30 and 16 per cent. respectively of the total produce. Owing to her peculiar position in respect of import of Nepal paddy Bihar would have to retain the rice mills on the Nepal border, as they are the only well organised body who have been found to be effective in procuring the largest amount of paddy from Nepal even.

6. (a) *Whether the State Government think it necessary to exercise any control over production by mills etc.*—In the context of present social and economic position, in relation to the food economy of Bihar, and in view of changes brought about by the war time controls, State Government would recommend that:—

The State Governments may be vested with powers to regulate and control the opening of new rice mills and production of existing mills by the issue of licences and registration of existing mills and the existing mills be statutorily compelled to effect mechanical adjustments and improvement in the milling processes, so as to bring the finished article to minimum standards from the nutritional standpoint.

(b) *Regarding protective measures like reservation of spheres of production and imposition of a cess on the mill sector.*—State Government would recommend that:—

As 98 per cent. of the rice produced and consumed in the State is hand-pounded, it is not considered necessary to reserve spheres of production for the hand-pounding sector. The number of rice mills in the State is very small and most of these rice mills have inadequate resources. The profits made by them are generally believed not to be of very high order. It is not necessary to impose any cess on the rice produced by the mills with a view to equalising the price of

hand-pounded rice and the rice produced by the mills. It is also not considered necessary to impose a cess on the rice produced by rice mills with a view to developing hand-pounding sector. The income from such cess will be small and will not be sufficient for organisation of hand-pounding sector.

(c) *Regarding whether the extent to which production by hand-pounding can meet the total rice requirement of the State Government and what measures the Government propose in this connection for organisation and expansion of hand-pounding.*--State Government recommend that:—

As already stated, 98 per cent. of the rice produced and consumed in the State is hand-pounded. The bulk of hand-pounded rice is pounded in the cultivator's home by using pestle and mortar. Sometimes, the help of the poorer section of the community in the village is also taken and the rice pounded with the help of the pestle and mortar. The remaining quantity of hand-pounded rice is produced by labourers who get wages in kind by using pestle and mortar, chakkies. It is, this last category of the workers, who can be organised on the co-operative basis. All India Khadi and Village Industries Board have already drawn up a scheme for this purpose and have been introducing the scheme in different States. In the areas where de-huskers are concentrated in large numbers, they may be organised on a co-operative basis and may be supplied with improved appliances for production of rice. Arrangements may be made for supply of paddy to them on credit and for marketing the rice produced by them through grain marketing societies and unions. Funds should continue to be made available for this purpose from the additional excise duty imposed on mill-made cloth.

The cultivator likes to market his own produce himself rather than to dispose of it in his khalihan or village site to the middleman (beoparies, itinerant). But, unfortunately owing to excessive deductions and malpractices existing in the rural markets and his obligations to his financier or the village bania, who as a rule tries to acquire his produce at first hand, his share in the assembling process of rice amounts to a little over-one-eighth of the total marketable surplus.

In the interests of the cultivators who have to bear the brunt of all these charges, necessary legislation has, therefore, to be initiated to regulate market charges or practices on a fair and equitable basis. Some such measure as the Bihar Markets and Dealers' Bill which was introduced in the Bihar Assembly on 5th May 1939 but could not be proceeded with, may be undertaken.

In financing himself the cultivator in addition to paying excessively high rate of interest has to part with a considerable proportion of his produce, soon after harvest, at a very low rate, in comparison with what he could have obtained, were he financially in a position to market it independently.

This fact alone justifies the organisation of growers' co-operative loan and sale societies particularly for rice and paddy.

(d) *Regarding the legislation in the matter.*—The State Government consider:—

The legislation to be initiated for purpose should indicate the administrative set up, the manner of financing and the nature of organisation. The details will naturally vary according to whether it is to be in the form of a co-operative society. State -*cum*-public corporation or a State Controlled Public Limited Company. It is not perhaps necessary at this stage to make detailed recommendations in this respect.

Information required by the Rice Milling Committee,
(Government of India)

Question	Hullers	Shellers	Total
(*a*) Different types of rice mills in the State.	146	2	148
(*b*) Total number of persons employed in these.	..	..	2500 to 3000
(*c*) Chief Centres where pounding is predominant as compared to rice milling.	There are no exclusive centres of hand-pounding as such-milling and hand-pounding exist side by side. All the growers produce rice by hand-pounding for their own consumption and sell their surplus in local Hatias. Besides, this there are professional dehuskers in each and every village, who buy paddy, dehusk it and sell the rice and make a living out of it. Almost any area can be called hand-pounding centre. Asarganj (Monghyr) has an organisation which undertake large scale hand-pounding. Areas where mills are few and far between may perhaps serve the purpose *e.g.* Chotanagpur and Santhal Pargans in South Bihar and any area in North Bihar.		
(*d*) Total estimated output (*i*) by hand-pounding, pestle and mortar, Chakies and Dhenkies.	95 to 98% of the total produce (including and excluding Nepal produce.)		
(*ii*) by rice mills (Regd.)	5 to 2% of the total produce (including and excluding Nepal produce.)		
(*iii*) by husking machines	Not known.		

There are hulling machines which dehusk consumers' paddy for consideration—Output cannot be ascertained with any degree of certainty.

(*e*) Percentage and normal recovery of rice from paddy— (aghani or winter paddy)

(*i*) by different milling processes. 62 to 65% —can be increased to 75%

(*ii*) by hand pounding mixing 57 to 58%.

It has been demonstrated that the percentage of extraction can be increased to 75% by lowering the rate of revolution per minute.

The rate of extraction varies from 51 to 58% maximum according to the age, season and quality of the paddy.

TRAVANCORE COCHIN

Before the integration of the two States of Travancore and Cochin the Government of Travancore by a notification dated 1st February 1943 had banned all rice mills within the State. Subsequently, in 1950 this order was modified to the extent of allowing Government procured paddy being processed by mills under a licence, but only 3 or 4 mills in South Travancore were licensed for this purpose. No mills were, however, licensed for milling private-owned paddy. In Cochin area, however, licences were issued separately for mills processing Government procured paddy and mills processing private-owned paddy. In October 1952 the Travancore-Cochin State appointed a Rice Mills Enquiry Committee under the Chairmanship of Shri G. Parmeshwaran Pillai (who is now a member of the present Committee) to enquire into the question of licensing of rice mills in Travancore area. The Committee recommended the continuance of prohibition of rice mills in Travancore area and gradual elimination of the existing mills in Cochin area to be replaced by hand-pounding. Meanwhile, a writ application was moved on behalf of the rice millers before the High Court questioning the validity of Rice Mill Control Order passed under the Travancore-Cochin Public Safety Act. The High Court held these orders invalid on the ground that the Act itself had not received the previous assent of the President as required under the Constitution. The State Government then issued a fresh Travancore-Cochin Rice Mills Licensing order 1954 under Section 3 of the Essential Supplies (Temporary Powers) Act of 1946. This Rice Mills Licensing Order also ceased to be in force when the E.S. (T.P.) Act lapsed on 25th January 1955. During the investigation of the Travancore-Cochin Rice Mills Enquiry Committee, more than 700 applications for new licences for rice mills were pending before the State Government. Curiously enough the licensing authority, who is the Commissioner of Civil Supplies, issued licences to all these applicants under the Rice Mills Licensing Order 1954, a couple of months before the visit of the Committee to the State.

2. Thus although the Travancore State had been following a determined policy of supporting the hand-pounding industry and prohibiting rice mills, immediately after decontrol the integrated State is on the point of being flooded with rice mills. Conditions in the State are definitely favourable for the hand-pounding industry. The State produces only 40 per cent. of its total rice requirement, the remaining 60 per cent. being imported from other States. The question whether the hand-pounding industry is capable of meeting the requirement of urban areas does not arise in this State because in any case, the imported rice is there to meet their requirements and the hand-pounding industry is called upon only to meet the home consumption of the rural areas. The agricultural population is still accustomed to hand-pounded paddy, and the question of availability of labour for hand-pounding the State's entire rice production is not a serious problem at least in the Travancore area. Out of a total annual production of 2·7 lakh tons of rice in the State, 2 lakh tons i.e. about 73 per cent. is still hand-pounded. The rice growing regions generally produce much less than their total requirements. The locally grown rice of these regions does not yield a marketable

surplus and is, therefore, easily capable of being entirely hand-pounded. There are, however, some rice growing tracts which produce a marketable surplus namely, those benefited by irrigation or by the monsoon twice a year thereby growing a double crop of rice. The Committee visited some of these regions and examined large paddy producers, cultivating labourers and social workers on this point.

3. The total density of population per square mile in this State is 1092 and the density of rural population is 948 per square mile which is the highest in India. The cultivated land per capita is only 0·28 acres. As against rice acreage of 8 lakh acres tapioca is grown on 5·25 lakh acres. As a result of a severe slump in the price of tapioca the agriculturists in this State are now facing a crisis. The recent agricultural labour enquiry undertaken by the Ministry of Labour on the basis of sample survey disclosed that 78·3 per cent. of the earners amongst the agricultural population of the State have no subsidiary occupation. According to the last census about 20 per cent. of the population are landless cultivating labourers with their dependants. This State produces 65 per cent. of the coir yarn of the world worth ten to twelve crores of rupees, employing on a cottage industry basis five to six lakhs people on the coastal talukas. But occasional fluctuations in the overseas demands for products of this and other State industries cause severe depression in the earnings of the agricultural population from these industries. The Travancore-Cochin Government's Administration Report on the working of the Coir Co-operative Schemes for 1950-51 showed that there were a very large number of middlemen in the various stages of the coir industry who themselves "pocket the entire profit out of the industry leaving the poor labourers and small-scale producers in the lurch". The State Government have passed a Warehousing Act and are organising Co-operative Societies for the benefit of the small-scale producers. But this has touched only a fringe of the problem. The conclusion, therefore, is irresistible that there is a great deal of under-employment among the agricultural population in the State in spite of the above-mentioned industries and the State's rural electrification schemes.

4. Two factors stressed during the Committee's investigation are (1) the sudden issue of a large number of licences to new rice mills and (2) the discontinuance of the licensing system. These have led to sudden increase in the number of rice mills in the State, so much so that the millers while ousting hand-pounding industry, have themselves become apprehensive of a cut-throat competition amongst themselves. The mills in this State are mostly of the small huller type with horse power varying from 5 to 20 each. There are about 20 big rice mills which are also of the huller type operated in the Cochin area. The small hullers have penetrated into the rural areas and the large rice producers in double crop areas who formerly used to have their produce hand-pounded now find it cheaper to have them processed by these hullers. Even the cultivating labourers who get their wages in paddy have it processed in some measure by these hullers for their home consumption. Unless, therefore, some determind measures are immediately taken, the hand-pounding industry which so long had a strong hold in the State, will soon be wiped out of existence.

COPY OF LETTER NO. FD.7-8200/54/FD.D FROM SRI GEORGE THOMAS, I.A.S., SECRETARY TO GOVERNMENT OF TRAVANCORE-COCHIN, FOOD DEPARTMENT, DATED 3RD MARCH, 1955, TO THE SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI.

SUBJECT:—*Rice Milling-Suggestions and information required for.*

Ref: 1. Your letter No. RMC/3/54, dated 6th November, 1954.
2. My letter No. Fd.7-8200/54/Fd.D., dated 26th November 1954.

I am directed to invite a reference to your letter cited and to state that the question of rice milling in the State has all along been a topic of controversy here. This Government, therefore, constituted a special committee with Sri G. Parmeswaran Pillai (also Member, Rice Milling Committee of the Government of India) as the Chairman to go into the question of rice milling in the State in all its aspects. The report of this "Rice Milling Enquiry Committee" was received by Government in 1953. While this Government were examining this Report they came to know of the Government of India's intention to set up a committee to go into the Rice Milling question. Final decision of this Government on their Committee's report has been deferred pending the Government of India's decision on the recommendation of the Rice Milling Committee recently appointed by them as per Resolution No. PY-I-608(5)/54, dated 8th October 1954.

The various aspects raised in your letter cited regarding the milling and hand-pounding of paddy have been fully discussed in the report of our Rice Mill Enquiry Committee * * * * *. However, with reference to the specific points raised in paragraph 3 of your letter cited I am to furnish the following information:—

This Government's views for encouraging the hand-pounding of paddy.

(i) There should be some control over the production by rice mills. Milling of paddy by power-driven machinery should be permitted only in accordance with the terms and conditions of a licence issued in that behalf by Government. In agreement with this policy this Government recently promulgated "The Travancore-Cochin Rice Mill Licensing Order 1954" * * * * *. When the Essential Supplies (Temporary Powers) Act, 1946 (Central Act XXIV of 1946) lapsed with effect from 26th January 1955, the Travancore-Cochin Rice Mills Supplies Lictncing Order, 1954 also ceased to be in force.

(ii) In urban areas, the rice requirements may be very heavy and the facilities for hand-pounding of paddy extremely limited. Hence in such areas power-driven rice mills may be licensed. In the case of villages and rural areas, rice mills may be prohibited, unless there are exceptional circumstances necessitating dehusking in mills.

A cess at the rate of two annas per maund of rice produced may be imposed on the mills, to encourage hand-pounding.

(iii) Local production of paddy in the State is only about 2,75,000 tons in terms of rice, per year. This will suffice to meet only about 40 per cent. of the annual rice requirements of the State at the rate

of 12 ounces per adult per day. Thus even if the whole paddy produced in the State is converted into rice by hand-pounding, the consumption of the hand-pounded rice among the people here will amount only to nearly 40 per cent. of their normal cereal diet, the balance 60 per cent. being polished milled rice obtained from outside the State.

Regarding the organisation and expansion of hand-pounding the following suggestions are made:—

(a) Hand-pounding co-operative Societies may be organised in convenient village units, the initiative being taken by Government. These Societies may be supplied with chakkies and Dhenkies free, chakkies for dehusking and dhenkies for polishing; and

(b) The amount of cess that may be realised on the total quantity of rice produced by power-driven mills may be utilised to give financial aid to the hand-pounding organisations as subsidy.

The information called for in paragraph 4 of your letter cited is furnished below:—

(a) The rice mills working in the State are chiefly of the huller type. There are, however, two mills fitted with sheller type machine. The total number of power-driven rice mills in the State using the huller fittings is 408.

(b) The total number of persons employed in these rice mills is 3,000. Nearly 350 mills are of small capacity and the number of labourers engaged in each of them is very few.

(c) The main centre of hand-pounding in the State is the South Travancore area (Trivandrum District). Dehusking of paddy by rice mills is predominant in the remaining taluks especially in Central and North Travancore and in all the taluks of the Cochin area.

(d) Mortar and pestle are mainly used in the State for the hand-pounding of paddy. Chakkies and dhenkies are not in use here. No authentic figures are readily available with this Government regarding the total estimated output of rice by hand-pounding and by mills.

(e) The out-put by hand-pounding is generally reckoned at 50 to 55 per cent. by volume. In the case of rice mills the out-put varies from 48 to 52 per cent. by volume. On weight basis, it may be said that the out-put of rice is generally two-thirds of the paddy. On an average paddy will yield 50 per cent. rice by volume.

As regards the proposal in paragraph 7 of your letter I am to inform you that this Government have given due publicity to the working of your Committee and for directing those who are interested in your enquiry to express their views direct at the time of the Committee's interview.

RAJASTHAN

Rajasthan is not of much importance from the point of view of rice production and even if the very small quantity of paddy avail-

able for processing is, as in the case of Madhya Bharat to be hand-pounded this could present no serious problem.

Rajasthan's total rice production in 1953-54 was only 80,827 tons. The State has 4 big rice mills and 130 small mills. The State Government were unable to state the total production of all the rice mills, but estimated the annual production of the bigger type four mills to be about 4,200 tons of rice. In the rice-growing areas where rice forms a major part of the staple food, it is mostly hand-pounded for home consumption in the rural areas. It would not be far wrong to place the percentage of hand-pounded rice at about 50 per cent. The chief rice-growing districts are Banswara, Dungarpur and Udaipur, where the small hullers have also penetrated into the villages. The zonal Director of the Central Khadi and Village Industries Board, the Rajasthan Khadi Sangh and the principal of the Khadi Gramodhyog Vidhyalay represented to the Committee that before the advent of the huller mills, the producers used to hand-pound their rice for home consumption and for sale, and hand-pounding being a slow process, the sale of the hand-pounded rice was spread over a long period thereby ensuring the producers a better price and a steady income. Another feature to which the Committee's attention was drawn by the above-named social workers was that these small hullers not only milled paddy brought by consumers charging a milling cost but they also purchased paddy direct from the producers or through middle-men, by advancing money to the cultivators on the security of their standing crop. Often the village money-lender, the purchaser of the paddy and the owner of a huller mill combined in the same person, thereby placing the cultivators entirely at this person's mercy. The zonal social workers, therefore, recommended to the Committee that no new mills should be allowed and the existing mills should also be eliminated and replaced by hand-pounding. They also recommended that the hand-pounding industry should be co-operatively organised and the technique of hand-pounding improved in order to increase its production.

Prior to the merger in 1949, more than two-thirds of what is now the State of Rajasthan, were scattered units under Jagirdars and neither before nor after the merger was rice a controlled commodity in these areas. The staple foodgrains in most parts of the State are wheat, bajra, jowar, maize and barley. As already stated, rice is consumed only in the rice growing districts of Banswara, Dungarpur and parts of Udaipur, and the State's export and import of rice are very little. There is also no industrial population to feed. In un-irrigated tracts, there is acute under-employment, but as the Food Minister observed, the people in these tracts are unwilling to leave their homes for other tracts which can provide them better employment. It is, therefore, a problem for the Government how to provide employment to the under employed agricultural population in these tracts which will always remain dry.

The Supervisor under the All India Khadi & Village Industries Board reported to the Committee that in Banswara district two hand-pounding centres had been organised on a co-operative basis, with 83 producer-members who hand-pounded 600 maunds of paddy per month.

Pulses

The State's annual production of pulses is 4·31 lakh tons of which the largest *viz.*, 2·30 lakh tons are gram. Other varieties of pulses grown are urad, mung, moth, arhar and tur. The Jaipur and Bikaner Divisions produce about 80 p.c. of the total pulses grown in the State. In Jaipur town there are no automatic dal mills, and only 12 or 13 power-driven roller dal mills with a daily output of about 150 mds. of finished dal per mill. On the other hand, more than 50 per cent. of the dal consumed locally were milled in hand chakkies. The dealers of dal employed these chakkies with hired women labourers. Two women operating one chakki could in 8 hours mill 5 mds. of gram dal on a wage of Rs. 1/2/- per head. The following table gives the recovery of dal out of one maund of pulse of each variety by power-driven roller mills and by hand chakkies:—

	Gram	Mung	Urad	Tur
By Power-driven Roller Mills	30 Srs	25 Srs	25 Srs	28 Srs
By Hand Chakkies	30 Srs	24 Srs	34 Srs	34 Srs

The recovery in the case of mung, urad and tur is much greater because this variety when milled in hand chakkies has a mixture of husk which are also edible and preferred by consumers for cheapness. In roller mills, the milled dal is completely free from husk. The price of mung dal milled by roller mills was Rs. 10 per maund and by hand chakkies Rs. 8/4/- per maund.

This State exports large quantities of gram dal, the chief exporting centres being Ganganagar, Bhadra, Nohar, Hanumangar and Raisingarh in the north-western part of the State which have big automatic dal mills with a daily output of 1200 mds. per mill. These mills produce dal on the same scale as the bordering dal producing areas of the Punjab such as Hissar. These big dal mills came into existence during the last 5 to 10 years.

In the rural areas, the producers still mill their pulses for home consumption with hand chakkies which are common in every household.

COPY OF A LETTER NO. D-3504/C.I.55 DATED 19TH APRIL, 1955 FROM THE SECRETARY TO THE GOVERNMENT OF RAJASTHAN, COMMERCE AND INDUSTRIES DEPARTMENT, JAIPUR TO THE SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE, NEW DELHI.

SUBJECT.—*Rice Milling Committee—Government of India.*

With reference to your letter No. RMC/3/54, dated the 6th November, 1954, I am directed to give below the views of the Rajasthan Government on para 3 of the above referred letter seriatim:—

1. The rice milling industry is not of much importance in Rajasthan since production of rice in Rajasthan is comparatively less than other rice growing areas of eastern part of India. This Government does not feel that any control should be imposed on the mills regarding milling

and husking of rice. While hand-pounding of rice is important in itself and provides scope of employment to a section of people in this State, this alone will not be able to meet the requirements of milling and husking in the season when the crop is most needed in the market.

2. Like handloom industry no protection measures like reservation of field of production is essential for hand-pounding of rice nor imposition of any cess on the mill sector is deemed desirable for hand-pounding.

3. As stated in No. 1, hand-pounding of rice cannot meet the requirements of the market at a time when the crop is to be placed in the market. As such there is need of more efficient method of milling and husking and the existence of rice mills will be justified in giving timely delivery of the crop in the market.

2. As regards para 4 the following abailable information is furnished:

1. There are four important rice mills located at Gangapur, Hindaun, and Bijaynagar which comes under the scope number of labourers employed by them comes to about 200. Besides, there are 130 small rice milling concerns in Rajasthan. The number of labourers employed by these Rajasthan. The number of labourers employed by these small concerns comes to about 400. Rice (paddy) is grown in abundance in the following districts. It is presumed that hand-pounding is carried in and around these districts; Banswara, Dungarpur, Udaipur, Ganganagar, Kotah, Sawaimadhopur, Bharatpur, Jhalawar, Bundi, Chittorgarh etc.

2. The above four rice mills have milled about 170,000 mds. of paddy during the calendar year 1953. Information regarding hand-pounding of rice is not available as this is done on cottage basis and not much information has been collected for cottage industries.

3. The Rajasthan Khadi & Village Industries Board is also considering question about development of hand-pounding of rice and pulse milling and the Committee may also interview the members of the Board in this respect along with some of the officials of the Directorate of Industries & Commerce.

4. The Committee may visit the Rice Milling Centres like Hindaun, Gangapur etc.

5. Further programmes about discussions and visit to Rice and Pulse Milling Centres may be fixed after preliminary discussions with the Director of Indutries & Commerce, Rajasthan, Jaipur.

ASSAM

As the Committee had no time to visit Assam, its Member-Secretary toured Assam on its behalf. Out of a total net production of 14·28 lakh tons of rice per year, only about 2 lakh tons or 14 p.c.

is milled and the balance of about 86 p.c. is hand-pounded. There are 246 rice mills in the State, which are mostly of the combined huller and sheller type. After dehusking by the sheller, they use the huller for polishing 'ushna' or par-boiled rice and the cone polisher for polishing 'Atap' rice because the cone polisher is not suitable for the grains of uneven size which are generally parboiled. During the days of control, Government procured about 1 to 1·5 lakh tons of rice per annum chiefly through rice mills who milled rice only on Government account. They were not allowed to mill rice for consumers except on special permits issued by Government. The small scale of Government's procurement during the period of control left about 88 p.c. of the State's rice production to hand-pounding. During control, the State Government did not issue any new licence for rice mills but since decontrol their number has increased from 184 to 246. After the lapse of the old Rice Mills Control Order, a new Order is under issue in order to keep the system of licensing of the rice mills in force.

Rice is the only staple cereal consumed by the population. The State is now surplus to the extent of about 70,000 tons of rice which it is in a position to export to other States. The All India Khadi and Village Industries Board have organised 16 hand-pounding centres in this State all of which are co-operative societies except one Panchayat and one registered institution. 11 of these centres are in Kamrup district which is the largest rice producing area, and 5 are in Nowgong. The hand-prounders who are members of these societies, hand-pound the societies' paddy in their homes and return the rice at the rate of 25 seers out of each maund of paddy to the society. A sales depot is attached to each society. About 500 mds. of paddy are hand-pounded by each society per month. Three women operating a dhenki can hand-pound 4 mds. of paddy in one day of 8 hours and produce 2½ mds. of rice, earning a wage of Rs. 2 per md. of paddy. Hand-pounded rice is dearer than milled rice by a rupee per md. but in some districts for instance North Lakhimpur, hand-pounded rice is cheaper than milled rice because the producers did not employ hired labour for hand-pounding but did it with the labour of his own family members. The State Government are contemplating to purchase the production of these hand-pounding centres.

It may be observed in this connection that according to the last census, the number of landless cultivating labourers in the State of Assam is ony 1·8 per cent. compared to 27 per cent. in Madhya Pradesh 21·9 per cent. in Bihar and the All India average of 12·3 per cent. The density of population is also quite low *viz.* 176 per sq. mile and the average size of agricultural holding per land owning agricultural family is as high as 15·35 bighas. Cultivation in the busy season, has mostly to depend on immigrant labour. On the other hand, during the off-season which is 8 months in double cropped areas and 4 months in single cropped areas, a large number of agriculturists remain idle. According to the Census Report, 92 per cent. of the agricultural labourer have no work for six months, and they have to depend for the whole year on the meagre seasonal earnings of 38·3 per cent. amongst these who are self-supporting

and 14·2 per cent. who are earning dependents. As regards subsidiary occupations, the most common are handloom weaving, spinning and sericulture.

Tribals who form about a third of the State's population, hand-pound their entire rice requirements and they use the pestle and mortar for hand-pounding. In the plains, hand-pounding is done with dhenki. At the Kasturba Gandhi Ashram at Sarnia near Gauhati, an improved light type of dhenki is in use, by which 2 women can process 1 md. of paddy in 1 hour 10 minutes *i.e.* more than 6 mds. of paddy in a day of 8 hours.

COPY OF SAVINGRAM NO. SDB377/54/20 FROM THE SECRETARY TO THE GOVERNMENT OF ASSAM, SUPPLY DEPARTMENT, SHILLONG DATED 12TH MARCH, 1955 TO THE MEMBER-SECRETARY, RICE MILLING COMMITTEE, NEW DELHI.

Reference your Circular letter No. RMC/3/54, dated 6th November 1954. Views of this State Government are as follows:

3. (1) Government are promulgating Assam Rice Mills Control Order 1955 under Central Act which will be used to exercise the objective in view.

(2) Reservation of spheres of production not practicable with decontrol of rice. Imposition of cess on mills will only increase price to consumers. Subsidy for hand-pounding, its proper organisation for marketing and propaganda for its use more desirable.

4 (a) There are altogether 246 Mills in Assam and almost all of them are huller type.

(b) 3,128 persons.

(c) Cachar and Sibsagar districts and rural areas of Kamrup Nowgong, Goalpara and Darrang.

(d) After providing for seeds and wastages approximate availability rice 14,25,000 tons. (i) Total output by hand-pounding approximately 9,00,000 tons which can increase, (ii) Total output by mills under full control near 2,00,000 tons and if total capacity taken into consideration under decentrol nearly 5,00,000 tons, (iii) No information available.

(e) Ordinary winter paddy output rice per maund approximately 25 seers; from automn paddy output approximately 23 seers. Through hand-pounding output would be somewhat higher but percentage of brokens greater.

5. The Assam Rice Mills Association, Gauhati and East Nowgong Rice Millers Association Hojai of Nowgong may be consulted from mills point of vitw. From aspect of hand-pounding Shri. M. M. Choudhury, President, Assam Pradesh Congress Cmmittee, Gauhati Shri Rabin Kakoti, General Secretary, Assam Pradesh Congress

Committee, Gauhati may please be consulted besides Shri M. N. Hazarika, M.L.A. of Nowgong, Shri Sarbeshwar Baruah, M.L.A., North Lakhimpur, Shri Ramesh Chandra Das Chawdhury, M.L.A., Village Srigouri of Karimganj and the State Khadi and Village Industries Board may please be consulted.

6. Cachar District, Hojai of Nowgong, Sibsagar Sub-Division, North Lakhimpur Sub-division are centres suggested for visit.

7. A copy of your circular to the individuals and organisations being sent with request to wirte to you direct.

MADHYA BHARAT

Madhya Bharat is not important from the point of view of rice production. It produced only 47,996 tons of rice during 1953-54. There are 21 bigger type rice mills which are mostly concentrated in the rice growing districts of Bhind, Morena and Gird. There were also large numbers of small hullers, for which exact figures were not available. Of the total rice production of the State, on a rough estimate about 50 per cent. was hand-pounded. Its importance so far as the Committee is concerned is in relation to pulses.

Pulses

The total production of pulses in this State during 1953-54 was 2·93 lakh tons of which 2·08 lakh tons were gram and 37,000 tons were Tur. There are some big dal mills at Morena, and many small dal mills in other parts of the State.

A dal mill with an average output of 250 maunds of finished dal, is ordinarily fitted with an elevator, a roller, machine and a sheller. The function of the roller machine is to crack and loosen the husk, and of the sheller is to remove the husk. As an alternative to sheller, a chakki is used for the same purpose. The difference between a sheller and a chakki is that the former rotates like a disc on a pivot and the latter like a wheel. Sometimes only a sheller or a chakki is used, without a roller. But a roller ensures better dehusking and less breakage. For making gram dal, the whole gram is first put into the roller which cracks and loosens the husk and partially removes the husk. The grains are then watered and dried and put through the sheller or the chakki twice or thrice thereby spliting the dal and removing the husk completely. For making Tur (arhar) dal, the whole pulse is first put through the roller, then watered and oiled and then passed through the chakki or sheller. A yellow colour is then given to the dal to make it look better. For making tur dal, the sheller is preferred to the chakki. For gram, 10 per cent. dehusking is done by the roller, whereas for tur the roller dehusks to the extent of 40 per

cent. For polishing urad dal, the mills use soap-stone powder. The recovery of dal out of 1 maund of pulse is given below:—

Gram	seers	dal
	5 seers	husk
	4 seers	broken
Tur	31 seers	dal
	2 seers	husk
	7 seers	broken
Mung	polished—26 seers	dal (*i.e.* without husk)
and urad	14 seers	broken and husk
	unpolished—34 seers	dal (*i.e.* mixed husk)
	6 seers	broken
Masur	32 seers	dal

Many consumers prefer to eat mung and urad with the husk. For mung and urad and masur, no watering or oiling is done and only passing through the roller completes the process.

An elevator dal mill with a daily output of 250 maunds of dal, would cost about Rs. 20,000 for machinery and purchase raw material worth rupess five lakhs a year. The annual repair and replacement cost about Rs. 3,000. Such a mill employs 15 labourers on a daily wage of Rs. 1/8/- per head.

In both Indore and Gwalior, the Committee visited several dal trading centres where dal was processed by women with hand chakkies. The hand chakkies now mainly produce unpolished mung and urad (*i.e.* with husk) which soce consumers prefer to the polished varieties, produced by dal mills. It was reported that 8 years ago, in the city of Indore 4,000 women workers used to make a living by making dal with hand chakkies. The number now engaged in the profession is only 400. At Indore, there are now about 60 trading firms which employ hand chakkies and sell dal produced by these chakkies. At Gwalior, their number is only four. At Indore, besides unpolished mung and urad (*i.e.* with husks), gram dal, polished mung and urad (with husk completely removed) were also produced by hand chakkies in direct competition with the dal mills. The comparative prices of the different varieties of dal produced by the dal mills and by the hand chakki in Indore on the date of the Committee's visit, are quoted below.—

	Mill	By hand chakki
Gram 6	Rs. 8/8/- per md.	Rs. 8/-/- per md.
Tur	Rs. 13/-/- per md	Rs. 9/8/- per md.
Mung	Rs. 12/8/- per md.	Rs. 10/-/8/- per md.

In spite of the cheaper price of the dal produced by hand chakkies, the milled dal was generally preferred by consumers because it looked better.

Below is the comparative recovery of the different varieties of dal out of one maund of whole grain:—

	By dal mills (seers)	By hand chakkies (seers)
Gram	31	30
Tur	31	27
Mung—polished	25	25
unpolished	29	32 to 35
Urad—polished	23	25
unpolished	28	32 to 35

The cost of milling is about -/6/- per maund by dal mills and about -/12/- per maund by hand chakkies for polished dal. As regards unpolished mung or urad, the cost is much less in hand chakkies and the recovery is more, than in dal mills. Hence hand chakkies have still a market for these particular varieties of dal. A woman labourer can earn Re. -/12/- to Re. 1 per day by operating a hand chakki for 8 hours, producing 3 maunds of these unpolished varieties.

The dal traders at Indore expressed to the Committee that if the dal mills were abolished, sufficient labour would be available and would be organised by the trade for production of dal by hand chakkies on a commercial scale. At Gwalior, however, the traders were not so hopefull.

COPY OF LETTER NO. 2837/XIII-1/9355 DATED 14TH MAY 1955 FROM SECRETARY TO GOVERNMENT, MADHYA BHARAT, INDORE, (INDUSTRIES AND COMMERCE DEPARTMENT) TO THE MEMBER-SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI.

SUB:—*Rice Milling Committee—Encouragement to hand-pounding of rice and dals.*

Please refer to your telegram No. RMC/3/17/55, dated 5-5-1955.

2. The Madhya Bharat Government have no objection to follow the policy suggested by the Government of India.

3. This Government feels that merely a negative action in stopping the existing industry is hardly likely to achieve the desired results. The policy has to be one of positive encouragement to hand-milling and hand-pounding. This may take the form of levelling up the price of mill-gorund rice and dal by levying Excise duty, but is strongly felt that the entire proceeds from the cess should be placed at the disposal of the State for the development of hand-pounding and hand-milling industry. It is also suggested that if power-driven mills are to be discontinued the following steps should be taken *viz*:—

(1) It should not be discontinued in major cities of Indore, Gwalior, Ujjan and Ratlam.

(2) Milling should be allowed to continue for export purposes outside Madhya Bharat.

(3) Efforts should be made to divert the machinery so rendered idle for others small scale industry in this State.

UTTAR PRADESH

The proportion of principal foodgrains consumed in the State are as follows:—

Wheat	27·3 per cent
Rice	20·6 per cent
Gram	16·6 per cent
Barley	16·9 per cent
Millets	18·6 pert cent

The annual average rice production in the State for 5 years ending 1954-55 is 19·34 lakh tons, and another 50 thousand tons are annually imported from Nepal, of which about 80 per cent is imported as paddy. Out of a total of nearly 20 lakh tons available for milling in the State, about 12 lakh tons or 60 per cent. are hand-pounded and the rest processed by rice mills. It is estimated that there are 120 sheller type and 1376 huller type rice mills in the State. A special feature of this State is that in what is called the Trans-Rapti region comprising the largest rice-growing tracts of the Districts of Basti, Gonda and Gorakhpur, there are practically no rice mills and very few small hullers. Not only is the entire paddy grown in this region hand-pounded but all the paddy imported from Nepal across the border of this region is also hand-pounded, and the surplus hand-pounded rice is exported to Bombay and other States. The Trans-Rapti centres together deal in about 25,000 tons of rice per annum and about four lakhs families depend partly for their livelihood on hand-pounding. The Committee visited some important marketing centres of hand-pounded rice *viz.* Short garh, Naugar and Tetri Bazar in this region. It was interesting to observe that the hand-pounding industry in this area was capable of producing fine qualities of rice which had their market in other States also. A few rice mills which were started in this region had to close down not only for lack of banks and good roads but also because hand-pounding was considered to be better suited than mills to process the finer varieties of paddy here. The producers in this region sell their marketable surplus as hand-pounded rice and not as paddy. Large grain marketing centres with grain merchants hailing from Gujrat and other places, deal only in hand-pounded rice. The flourishing hand-pounding industry in the Trans-Rapti region of Uttar Pradesh like those of Raigarh and Bastar in Madhya Pradesh and Sambalpur in Orissa, demonstrate the capacity of this industry to produce rice on a commercial scale. The chief factor which has promoted the hand-pounding industry in this region is that it is a single cropped area and agricultural labour has little other work except hand-pounding during at least 5 months of the year *viz.* November to March.

Quite an opposite picture is presented by the Bundelkhand region comprising the districts of Jalaun, Banda, Hamirpur and Jhansi in this State. It is stated by the Food Department of this State that this area has to depend upon imported labour from Vindhya Pradesh. There is no hand-pounding here, and the paddy produced entirely goes to the local rice mills for processing.

Hand-pounding flourishes chiefly in the Eastern part of this State. For instance in the Banaras region comprising the eastern districts numbering eleven, out of a total production of 4·50 lakh tons of rice in 1953-54, 3·63 lakh tons *i.e.* more than 80 per cent. is hand-pounded.

Out of a total population of 6·32 crores of the State, 74·2 per cent. depend on agriculture. Cultivated land *per capita* is 0·65 acres, and the percentage of landless cultivating labourers with dependents is 5·7 per cent.

This State exports annually about 39,600 tons of rice to other States, of which 50 per cent. is exported as hand-pounded rice. Another distinctive feature of this State so far as hand-pounded rice is concerned, is that during the control period, out of an annual average procurement of 1½ lakh tons of rice, 25 per cent. used to be procured by Government as hand-pounded rice.

Pulse Milling

The Committee visited some pulse mills in Kanpur which is a major pulse milling centre in the State. These are mostly roller mills with or without elevators, with a daily output of 250 maunds of finished dal. A few of them were equipped with automatic drying plants, and had a daily output of 1,000 maunds of finished dal. The Committee also visited some centres where pulse milling was done by hand chakkies. The comparative percentage of recovery of finished dal from whole pulse and the cost under the different milling processes are given below:—

	Percentage of Recovery	Milling cost per maund finished dal
1. Automatic roller mills	72 per cent	Re. -/4/-
2. Ordinary roller mill	72 per cent	Re. -/8/-
3. Hand chakkies	78 per cent	Re. 1/-/-

For milling by roller mills, the whole grains are first cleaned and seived and then put into the roller for taking off the husk. The grains are then watered and dried and then put into the power driven chakkies or shellers for complete dehusking, splitting and polishing. By automatic mills, the grains are watered and dried in the plant itself. For milling by hand chakkies, the grains are smeared with oil instead of being watered and then dried before being put into the chakkies. The grains are oiled and dried several times in the process of being split in the chakkies. This gives the dal prepared by hand chakkies, better taste although the dal produced by mills has a better polish. The varieties of pulses milled in Uttar Pradesh were gram, masur, mung, Tur, (Arhar) and mator. The recovery of gram dal is 31 seers, Tur 28 seers, and of masur 26 seers per maund of whole grain by power driven mills. The recovery by hand driven chakkies is 6 per cent. higher. A roller mill having a daily output of 250 maunds of finished dal would cost about Rs. 10,000 without elevators, and Rs. 30,000 with elevators. An automatic pulse mill equipped with drying plant and having a daily output of 1,000 maunds would cost about Rs. 80,000. A roller mill with a daily output of 250 maunds employs 25 labourers without

elevators and 15 labourers with elevators, an automatic mill with a daily output of 1,000 maunds employs only 10 labourers.

Two persons operating a hand chakki can produce two to three maunds of finished dal in one day of eight hours, and earn a wage of Rs. 1-2-0 to 1-8-0 per head. At Tilia Mahalla, visited by the Committee there were about 25 families who still make a living by making dal with hand chakkies. They purchase whole pulses and all members of their families joined in operating the hand chakkies. It was said that 5 to 10 years ago, the city was entirely fed from production by hand chakkies and thousands of families made a living out of it. Dal produced by hand chakkies was dearer by a rupee per maund than by mills.

One factor which hastened the process of the ousting of hand chakkies by dal mills in Uttar Pradesh was that gram was a controlled commodity requiring licence and for the small chakkiwalas it was difficult to obtain licence.

Many of the mills in Uttar Pradesh combined the production of rice and dal.

As already stated, the pulse mills came into existence 5 to 10 years ago and have quickly spread all over the State, throwing thousands of chakkies in the urban areas out of employment. But in rural areas the producers of pulses used hand chakkies for their home consumption. But those professional hand chakkiwalas who used to purchase whole pulses and produce dal for consumers, have been mostly thrown out of employment. It was reported that at Chauri Chaura alone about 5,000 people were thus been deprived of their livelihood by the advent of the dal mills. In Benaras region, about 50 per cent. of the pulse production is, however, still processed with hand chakkies.

COPY OF LETTER No. K-5092/XXIXA-608-1954, DATED 13TH JANUARY 1955 FROM THE SECRETARY TO GOVERNMENT OF UTTAR PRADESH TO THE SECRETARY, RICE MILLING COMMITTEE, MINISTRY OF FOOD AND AGRICULTURE, GOVERNMENT OF INDIA, NEW DELHI.

SUBJECT.—*Rice Milling Committee, Government of India.*

I am directed to refer to your letter No. RMC/3/54, dated November 6, 1954, about milling of rice by hand-pounding and to say that this State Government do not favour hand-pounding of rice by discouraging production by the rice mills. Hand-pounding is a technical work and if unskilled labour is put on this job without adequate training or experience, the quality of rice produced by such labour may not compare favourably with the production of the rice mills. On the other hand, skilled and experienced labour may not perhaps be available in sufficient number for taking up hand-pounding of rice on an extensive scale. It may also be considered that in the present shrunken money market on account of the recent slump in prices efforts have to be made for arranging a quick turn-over of money. Hand-pounding of rice through manual labour would necessiate the accumulation of paddy stocks for a tons in terms of rice, per pear. This will suffice to meet only about natural result thereof would be that the prices of paddy may recede

further. This would have an adverse effect on the production of paddy, which must always be in proportion to the facilities available for its hulling. As sugar mills have encouraged the production of sugercane, in the same manner rice mills have increased the production of paddy. In some districts in this State the marketable surplus of rice during the last 15 years or so has increased by 5 to 10 times, and the installation of rice mills in such areas has played an important role in stepping up the production of paddy. If sugar mills are closed down today and production of khandsari by hand processing is attempted on a large scale, the production of sugarcane must go down. Similarly, hand-pounding of rice by restricting the activities of the rice mills may have as its natural corollary a reduction in the acreage of paddy. Rice is now free commodity and purchasers have once again started going more by the polish and general appearance of the rice, which is put in the market. It is extermely doubtful if hand-pounding would reach those standards of quality and polish which are obtained by automatic milling. This State Government, therefore, feel that it may not be proper or necessary to exercise any control over the mills for restricting their spheres of activity. The only control which may be exercised is to restrict the maximum number of revolutions of the huller per minute, so that there is neither over-polishing nor unnecessary breakage of rice. Quite a number of rice hullers are, however, situated in the rural areas, and it is felt that even this restriction may not strictly be enforced unless there is adequate staff to supervise the activities of the rice mills and hullers.

2. The State Government do not favour any protective measures like reservation of spheres of production or any imposition of a cess on the mill-sector for reasons already explained above, because such measures would ultimately discourage production of paddy.

3. The consumers are guided more by the polish and general appearance of rice which is for sale in the market and from that point of view hand-pounding rice may find itself at a disadvantage. Even if hand-pounding is taken up on an extensive scale, there would be a general demand for milled products.

4. Information as required in para. 4 of the letter under reference is given as under:—

(a) (i) Huller-type machines 1376

(ii) Sheller-type machines 120

(b) The total number of persons employed in rice mills is estimated at 35,000. These persons work only for six to seven months during the rice season, that is, October to April.

(c) The important centres for hand-pounding are Shohratgarh, and Barhni in Basti district, and Nautanwa in Gorakhpur district, Haldwani in Nainital district, Tanda in Rampur district and Baheri in Bareilly district used to be important hand-pounding centres, but their importance is fast disappearing, because rice mills have been installed in these markets now.

(d) An accurate estimate of the total output by hand-pounding or milling is not available. It is, however,

rougly estimated that during 1953-54 about 12,00,000 tons rice was produced by hand-pounding and about 6,00,000 tons by rice mills. The output of mills and husking-machine is not available separately.

(e) The percentage and normal recovery of rice by hand-pounding and by different processes of milling varies according to the variety of the rice and the season in which it is milled. According to a rough estimate, however, the average recovery is taken at two-thirds of the paddy, that is, anything between 62 per cent. and 66 per cent. The sheller-type rice mills, however, give a recovery up to 70 per cent. and if the revolutions are so adjusted that there is only minimum polishing, the recovery can be up to 74 per cent.

5. There is only one Rice Miller's Association at Kanpur, the members of which may like to give evidence before the Committee. In case the Committee wants to obtain the views or suggestion of other persons in the trade, they may inform the Regional Food Controllers at Kanpur, Lucknow, Meerut and Gorakhpur who may get the big rice dealers of their respective regions to put their suggestions before the Committee. It is suggested that the Committee may give an estimate of the number of persons they may like to examine at each centre.

6. The centres which may be visited by the Committee may be Nawgarh and Shohratgarh in Basti district, Bareilly, Saharanpur, Etawah, Atara, Fatehpur and Kanpur, which are all important rice markets.

ANDHRA

Rice production in the State is about 21 lakh tons, of which 3·5 lakh tons are exported. No correct statistics are available as to the proportion of rice which is hand-pounded in this State, although some officers say that about 39,000 tons are hand-pounded. This is less than 2 per cent. of the total production. The number of rice mills in the States is 759 and that of small hullers 2,802. The increasing number of small huller in the State is chiefly responsible for the dwindling position of the hand-pounding industry. A special feature of this State is that the State Government have already undertaken a scheme for organising 40 hand-pounding centres in the National Extension Service Blocks and the Community Development Blocks and also through selected multi-purpose Co-operative Societies, registered associations and recognised non-official Ashrams. A copy of this scheme is enclosed. The scheme provides for (a) Government subsidy per mound of production of hand-pounded rice in these centres (b) Government financial aid for the cost of equipment (c) loan at 3 per cent. interest by the All India Khadi and Village Industries Board, and (d) Government paid supervisory staff. Out of the target of 40 centres 10 will be opened immediately. Each centre will enlist 200 consumer families to buy the hand-pounded rice produced is the centre and will employ 20 women

workers for 200 days in the year on a wage of Re. 1 per head per day. The State Government have also under consideration a proposal for purchasing 30,000 mounds of hand-pounded rice per year for the jails, police and hospitals.

The Committee visited two hand-pounding centres, one at the National Extension Training Centre at Gopannapalam and another in Vijayawada town. The former was only demonstration centre and the implement used was of a wooden chakki model, which was also manufactured in the centre and sold at the rate of 0-12-0 per 1" diameter. Some wooden chakkies were kept in the centre and villagers brought paddy here and got it dehusked free of charge. Two women with one chakki hand-pounded two mounds of paddy per day of 8 hours and received Re. 1 as wages per head. The rice was polished in pestle and mortar, by which 3 women could polish one bag of paddy. The wodden chakki which was used in the centre was, however, too costly because it required regrooving at short intervals, at a cost of Re. 1 each time. This centre, upto the time of the Committee's visit sold only about 20 wooden chakkies. The hand-pounding centre at Vijayawada town was run by a private dealer. The centre employed 10 women workers. Two women hand-pounded one bag of paddy in course of a day receiving Re. 1 per head. The centre produced 50 bags of rice per month. The outturn of rice from paddy in the centre was 42 seers whole rice, 6 seers brokens and 1 seer bran out of each bag of paddy. At Tenali, the Committee examined a number of organisers of hand-pounding industry, who produced hand-pounded rice with Government's licence during the control days and one of whom still continued this business.

The Committee visited some villages. Almost every house had a set of pestle and mortar, but it was used more for other purposes, namely making chillie powder, etc., than for hand-pounding of paddy. In one village out of 200 houses only 25 houses were reported to hand-pound the rice for home consumption; all the rest took their paddy to a huller nearby for processing. In another village about 50 per cent. of the villagers still used hand-pounded rice, because there was no huller near about.

The rice mills in this State were doing a flourishing business and are still expanding after decontrol. One rice mill, which the Committee visited in Vijayawada town, purchased one lakh bags of paddy per year since decontrol, against 70,000 bags of paddy which the mill processed during control. This mill exports rice to Cochin, Calcutta and Bombay. One characteristic of the mills here was that after dehusking the parboiled paddy in the sheller machines, they put it into hullers for polishing and did not use cone polishers.

Although the hand-pounding industry is now facing extinction under the competition from mills, some areas in this State were at one time famous for hand-pounding. During the control period, in one such area, namely Masulipatam, a special hand-pounding model known as the Masulipatam Chakki and populary called the Chemare chakki was used. This was a stone chakki fixed on wooden platform and operated with a hand-driven wheel. One such model of a large type was seen by the Committee at the Sarvodaya Exhibition at Vijayawada. This model dehusked 20 maunds of paddy per

day with the aid of 5 workers. For polishing, pestle and mortar was used. It is said that the use of this model could reduce the cost of hand-pounding by seven annas per bag of paddy. At Masulipatam, there was a consumers' co-operative society with a membership of 450 consumers, which purchased paddy and had it milled for its members. The Secretary of the Society reported that about 40 per cent. of the consumers preferred hand-pounded rice. The Society owned a godown of its own with a capacity of 3,000 bags of paddy and only recently purchased 2,500 bags for milling.

The State Government aims at a target of production of 5 lakh tons of rice per year by hand-pounding during the next 5 years. A member of the Board of Revenue stated that if the entire rice consumed by the producer-consumers in the rural areas which amounted to about 7 lakh tons per year, could be hand-pounded, it would, to a great extent, solve unemployment and under-employment of the agricultural labour.

The Joint Registrar, Co-operative Societies, who gave evidence before the Committee reported that there were a number of co-operative Marketing Federations affiliated to the Central Banks in the State. These Federations acted as commission agents of the paddy producers and advanced loans to the latter upto 60 per cent. of the produce, namely paddy, onions, chillie, etc. Before control, these societies used to purchase paddy, process it and sell the rice, but with the introduction of Government control, they ceased to do so.

From this outline, it will appear that there are certain conditions in this State which are favourable for the revival of hand-pounding, there is sufficient State initiative and support to this industry and a band of constructive workers are ready to take up the organisation of hand-pounding. The Committee had the advantage of meeting the organisers of the Sarvodaya Exhibition at Vijayawada and the State Khadi and Village Industries Board at Kurnool.

COPY OF LETTER NO. 91563K/54-52, DATED 1ST MAY 1955, FROM THE SECRETARY TO THE GOVERNMENT OF ANDHRA TO THE SECRETARY RICE MILLING COMMITTEE.

SUBJECT.—*Rice Milling and Hand-pounding—Views of the State Government—Forwarded.*

I am directed to invite attention to para. 3 of the letter first cited, and to communicate the views of this Government on the several points mentioned therein.

POINT 1.—*Whether this Government think it necessary to exercise and control over production by mills and husking machines and if so, what measures they would propose for the purpose of such control.*

The Government would commend the following line of action:—

(i) quick expansion of the hand-pounding units should be undertaken, so that a corresponding progressive diminution in the production by mills and husking machines could be secured.

(ii) pending expansion of the hand-pounding units, the existing mills and husking machines may be allowed to continue, subject mainly to restrictions on the milling operations in regard to the nature and degree of polish, etc.

(iii) no new mills and husking machines may be set up except in areas where hand-pounding units are not developed in adequate measure, or where the production is intended entirely for export only;

(iv) renewal of licences for mills and husking machines may progressively be withheld, except in areas where the hand-pounding units have not been developed on a sufficient scale or where the requirements of export trade so warrant.

POINT 2.—*What is the view of this Government regarding protective measures like reservations of spheres of production and imposition of a cess on the mill sector.*

The production of the hand-pounding units is insignificant at present, and the question of reservation of spheres of production or imposition of a cess on the mill sector may appropriately be considered, as and when the production of the hand-pounding units has assumed significant proportions. A more appropriate line of encouragement to the hand-pounding sector would, in the meantime, be by way of intensive propaganda and grant of financial assistance on the part of Government as well as technical assistance by evolution and popularisation of improved pounding processes and equipments. It seems inadvisable to actively discourage or encumber the mill sector until and unless the hand-pounding units have been so developed as to be able to make up for any fall in the production of the mills, which imposition of a cess or other restrictive measures on the mill sector might result in.

POINT 3.—*The extent to which production by hand-pounding can meet the total rice requirements of this State and what measures this Government propose in this connection for organisation and expansion of hand-pounding.*

This Government would commend the following suggestions for the organisation and expansion of hand-pounding:

(i) Hand-pounded rice may be subsidised so as to reduce the disparity between its price and that of the milled rice;

(ii) All Government Institutions, hostels, etc. may be asked to encourage consumption of hand-pounded rice;

(iii) Hand-pounding may be organised in the Community Project Areas and extended to other areas gradually;

(iv) Necessary propaganda regarding the vitamin value and the need for the revival of hand-pounding as a measure of solving rural unemployment, may be carried on.

This Government have, in consultation with the All India Khadi and Village Industries Board, approved a scheme for organising hand-pounding of rice industry in certain areas in this State through ten selected institutions. It is expected that these ten centres will enlist 2,000 families, at the rate of 200 families at each centre and supply

hand-pounded rice regularly throughout the year. These ten centres will fix up a minimum target of 2,000 families for consumption, and provide employment to 200 to 250 women per day for a total period of 200 days in the year. The total cost of the scheme is estimated at Rs. 1,44,400 of which the All India Khadi and Village Industries Board will bear Rs. 1,21,200 as subsidy the balance being shared by the State Government and the respective centres selected for working the scheme. The Registrar of Co-operative Societies has been instructed to take very early steps to start the scheme, at all the ten selected centres. The All India Khadi & Village Industries Board has since sanctioned the opening of another ten hand-pounding centres in this State. The Registrar of Co-operative Societies has been asked to select the additional centres preferably in the National Extension Scheme Block areas.

Draft Scheme for Hand-Pounding of Paddy in Andhra State

1. *Aims and Objects.*—The object of the Scheme is to provide employment to the extent possible to the women of the labour classes mainly during the off-season as also to keep up the nutritive value of the rice contents, in the interest of the health of the public.

The industry will be organised in suitable areas of the State where there is proper atmosphere with the assistance of the All India Khadi & Village Industries Board.

2. *Scope and Area of Operation.*—It is proposed to organise 40 units in the National Extension Service Block, Community Development Blocks and through selected Multipurpose Co-operative Societies, Registered associations and recognised non-official Ashrams. The work will be entrusted to one of the best Multi-Purpose Co-operative Societies in the National Extension Service and Community Development Blocks, and in other areas to recognised Ashrams and Producer-*cum*-consumer Co-operative Societies. The following are the areas and institutions selected for implementation of the Scheme.

Area	Nature of organisation	Minimum No. of families attached to each organisation
1	2	3
1. N. E. S. Blocks . . .	22 Multipurpose Co-op. Societies.	4400
2. Proposed NES Blocks . .	5 Multipurpose Co-op. Societies.	1000
3. Community Development Blocks	2 Multipurpose Co-op. Societies.	400
4. Village Industries Model Centre, Gopannapalam.	2 Multipurpose Co-op. Societies.	200
5. Alamur (East Godavari Dt.) .	M.P. Co-op. Society .	200
6. Masulipatam	Producer-*cum*-consumer Co-op. Society.	200

1	2	3
7. Tiruvur	Andhra Sarvodaya Sangham	200
8. Vantithadi, Vijaganagaram	Gandhi Gramasowbhagya Ashram.	200
9. Rajahmundry	Industrial Museum	200
10. Bhimavaram (West Godavari)	Ramakrishna Prakurti Ashram	200
11. Jogannapalam (West Godavari)	Srirama Maruti Gramaseva Sangham.	200
12. Vijayawada	Khaddar Samsthanam	200
13. Komaravolu (Gudivada Tq.)	Gandhi Ashram	200
14. Mandavalli (Krishna Dt.)	Gandhi Sevashram	200
15. Pammarru (Krishna Dt.)	Vidyavanam Hindi Kendram	200
16. Vinayasharm P.O. (Guntur Dt).	Kalyanakavaru	200
17. Mydukur (Cuddapah Dt.)	Anandashram	200
18. Hindupur (Anantapur Dt.)	Seva Mandir	200
No. of units	40	8000 families

The work in following 4 NES Blocks will be entrusted to the organisations noted against each.

1. Rajahmundry Block	Industrial Museum (Regd. Assn.)
2. Dendulur B'ock	Village Industries Model Centre, Government Andhra Gramsevak Vidyalayam, Gopannapalam.
3. Tiruvur Block	Andhra Sarvodaya Sangham (Regd).
4. Hindupur Block	Sevamandir (Regd.).

The total number of centres will be 40 in all.

It is expected that these 40 centres will enlist 8,000 families at the rate of 200 families under each Centre and supply hand-pounding rice regularly throughout the year. These 40 Centres will fix up a minimum target of 8,000 families for consumption and provide employment to 800 to 1,000 women per day for a total period of 200 days in the year. The total amount of wages which could be distributed through these 40 Centres will be about Rs. 4,000 through each centre *i.e.*, 40 × Rs. 4,000 = Rs. 1,60,000.

As dehusking of paddy and hand-pounding of rice is one of the difficult works, we cannot expect that the labourers engaged in the Industry can work for more than 5 to 6 hours a day. The average earning capacity of each labourer will vary between As. 0-12-0 and Re. 1, if the dehusking part is done by chakkies and the anterior process for removing of bran and polish is given on country stone and pestle.

3. *Total Output of each Society.*—A minimum target of serving the needs of the 200 families should necessarily be fixed to provide tangible work to a minimum number of 20 labourers per day. The total quantity of paddy required for consumption by the 200 families

will be about 2,400 bage at the rate of one bag per month for each family. Though an average family unit requires a minimum quantity of 12 bags per year for working out the scheme through an organisation and supply to families, an average figure of 10 bags per family can be taken. This of course, varies with the number of families and its members and the actual quantity of rice consumed by each family, but for the purpose of the scheme, a total quantity of 2,000 bags *i.e.*, 4,000 Bengal mounds of paddy can be taken as a target for each society.

As it is not possible to store the entire paddy required for each Centre by purchasing in one lot, the possibilities of storing a minimum quantity of at least $\frac{1}{4}$ of the required number of bags should be seen. It is not possible to store more than 1,000 Bengal maunds in each of these Centres. Even for storing the same quantity, each Centre requires two average size pucca rooms.

4. *Working Capital for Storing Paddy.*—Provision is shown for storing 1,000 Bengal maunds of paddy for each Centre. The total amount required at Rs. 10 per Bengal maund will be Rs. 10,000. This amount of Rs. 10,000 will be given as loan with 3 per cent. interest by the All India Khadi & Village Industries Board. There is such provision in the Scheme given by the All India Khadi & Village Industries Board. The total amount of Capital required for the 40 centres will be Rs. 10,000 × 40 = Rs. 4,00,000.

5. *Subsidy.*—There is provision in the Scheme given by the All India Khadi & Village Industries Board for giving subsidy at As. 0-6-0 per Bengal maund of paddy.

Total amount of subsidy which each Centre gets at As. 0-6-0 per Bengal maund of paddy dehusked. } 4,000 mds. × 0-6-0 = Rs. 1,500.

do—for 40 centres Rs. 1,400 × 40 = Rs. 60,000.

This amount will be given by the All India Khadi & Village Industries Board as there is enough provision under that item. No subsidy need be given for this purpose through State Funds.

6. *Equipment.*—There is provision in the Central Scheme for giving a subsidy of 50 per cent. on Chakkies, Dhenkies and Winnowing fans to these centres. The remaining 50 per cent. will have to be met from the State funds and the funds of the Centres at the rate of 25 per cent. each.

Total No. of chakkies for each centre = 10.

Total No. of chakkies required for 40 centres = 400.

Cost of 400 chakkies at Rs. 40 each = Rs. 16,000.

At 50 per cent. subsidy = Rs. 8,000.

The remaining Rs. 8,000 will have to be met by the State Government and the Centres equally *i.e.* Rs. 4,000 each.

80 Winnowing fans at 2 for each centre

Cost of 80 Winnowing fans at Rs. 120 each Rs. 9,600.

50 per cent. subsidy by the All India Khadi & Village Industries Board. Rs. 4,800

The remaining Rs. 4,800 will have to be met by the State Government and the Centres equally, *i.e.* Rs. 2,400 each.

With regard to other equipment, such as country Winnowing fans, baskets, stones, pestles, country screens and 300 Gunny bags at Rs. 1-8-0 each, each centre requires a minimum amount of Rs. 500. It is necessary that at least half the cost of the equipment should be met by the State Government and the remaining half by the Centres, as there is no provision for such equipment in the budget of the All India Khadi & Village Industries Board.

For 40 centres at Rs. 500/- each	Rs.	20,000/-
State Government	Rs.	10,000/-
Centres	Rs.	10,000/-
	Rs.	20,000/-

7. *Establishment.*—There is provision under the All India Khadi & Village Industries Board, for meeting the establishment charges to supervise these Centres and guide them to work on proper lines as envisaged in the Scheme and to check up their accounts regularly. An Inspector for the whole state on a maximum salary of Rs. 200 p.m. will be appointed and the salary of the Inspector will be met by the All India Khadi & Village Industries Board. There is also provision in the All India Khadi & Village Industries Board's budget for meeting the salaries of the Supervisors and each of them is expected to supervise at least 10 Centres under his jurisdiction. The maximum pay for each Supervisor is Rs. 125 p.m.

It was also suggested by Sri Raojibhai Patel, Member of the All India Khadi & Village Industries Board that provision would be made for meeting the Travelling expenses of the Inspector and the Supervisors *i.e.* a maximum amount of Rs. 100 p.m. in case of the Inspector and Rs. 50 each in case of Supervisors.

Salary of the Inspector at Rs. 200/- p.m. for 12 months	Rs.	2,400/-
Salary of 4 Supervisors at Rs. 125/- p.m. for 12 months	Rs.	6,000/-
	Rs.	8,400/-
Travelling Allowance of Inspector at Rs. 100/- p.m. for 12 months.	Rs.	1,200/-
Travelling Allowance of 4 Supervisors at Rs. 50/- each for 12 months.	Rs.	2,400/-
	Rs.	3,600/-

Through sufficient provision is not made for contingencies in the Scheme by the All India Khadi and Village Industries Board, Sri Raojibhai Patel stated that he would make provision for office contingencies to the Inspector and the Supervisors at Rs. 300 per year for the Inspector and Rs. 150 for each of the 4 Supervisors per year.

Contingencies for the Inspector per year	Rs.	300/-
Contingencies for 4 Supervisors at Rs. 150/- each	Rs.	600/-
	Rs.	900/-

The entire amount under this head will be met from the funds of the All India Khadi & Village Industries Board. To work out this

scheme althrough the year on successful lines in all the 40 centrs, each Centre requires a whole time paid worker. In the existing system none of the Multi-Purpose Co-operative Societies or Registered Associations or recognised Ashrams are in a position to employ a separate worker for this purpose. It is also not possible in the initial stages to add all the additional expenditure to the cost of the hand-pounded rice as its cost itself will be comparatively a little bit more than the milled rice. It is, therefore, suggested that each Centre has to appoint a full time worker for attending to the close supervision of the work of the 20 women workers and to regularly supply hand-pounded rice to the 200 families attached to each Centre. Provision should, therefore, be made for meeting the salary of these workers either by the All India Khadi & Village Industries Board or the Centres or the State Government themselves. It was definitely stated by Sri Raojibhai Patel that there was no such provision under the Central Scheme for meeting the salary of the workers. There are also no possibilities for meeting the entire salary of the workers by the existing Centres or the Societies. It is, therefore, necessary that both the State Government and the Centres should meet this expenditure at 50 per cent. each. The Centres themselves will meet the other contingent expenditure.

8. *Rent for Godowns for Storing the paddy.*—For storing 500 bags of paddy of 2 Bengal maunds each, there is need for 2 average size pucca godowns. As we cannot secure pucca godowns at the initial stages in the first year, these Centres have to take at least private rooms on rent. In the existing circumstances, either the societies or these recognised Ashrams are not in a position to meet these charges from their existing funds. It is, therefore, necessary that this expenditure towards the rent of the godowns will have to be met either from the State Funds or from the funds of the Centres or Societies. For the successful implementation of the scheme. it is better that this expenditure is met by both the State Government and the Centres on the basis of 50 per cent. each. The average rent required for storing each bag of paddy is one rupee per year. For 500 bags, Rs. 500. As and when paddy is exhausted in the day to day working and regular supply to the consumers, the paddy will be locally purchased at the existing rates and it will be again stored in the godowns. For the 40 Societies, it comes to Rs. 20,000. Half of this amount *i.e.* Rs. 10,000 will have to be met from the State funds and the remaining 10,000 by the Centres. Though it is difficult for these Centres to meet this Rs. 10,000, this cannot be avoided and this should be included in the working charges and added to the sale price of the hand-pounded rice when the same is supplied.

9. *Interest on Capital.*—Provision has already been shown in the foregoing paragraphs under "CAPITAL" for purchase of 500 bags of paddy costing Rs. 10,000 which will be given by the All India Khadi & Village Industries Board on 3 per cent. interest. The interest on this capital comes to Rs. 300 per year for each Centre. There is no other alternative under the Scheme than to make the Centres themselves bear this expenditure by adding to the overhead charges. The total amount of interest for all the Centres on a capital of Rs. 4,00,000 at 3 per cent. will be Rs. 12,000. The entire amount will have to be met by the 40 Centres themselves.

APPENDIX IV

STATISTICAL AND OTHER RELEVANT INFORMATION SUPPLIED BY THE STATE GOVERNMENTS

Name of State—ASSAM

1. Population	98,43,707 including N.E.F.A.
2. Percentage of rural population	95%
3. Percentage of population dependent on agriculture.	73·3
4. Percentage of population of landless cultivating labourers with dependents.	14·5
5. Density of population per sq. mile	
(*i*) Total	176
(*ii*) Rural	
6. Average size of agricultural holding per landowning agricultural family.	15·35 bighas
7. Cultivated land *per capita* in acres	0·6 acres
8. State acreage under principal food crops.	Rice 41,04,336 acres Misc. 3,00,000 acres
9. Proportion of principal foodgrains consumed in the State—	
(1) Rice	13,40,000 tons
(2) Wheat	34,000 ,,
(3) Other foodgrains	3,000 ,,
10. Rice consumption in the State in thousand tons.	13,40,000 tons
11. Annual average rice import into or export from the State during period of control.	
Import	26,262 tons
Export	9,065 tons
12. Rice production in the State	16,16,780 tons (Net availability —14,28,123 tons).
13. No. of	
(*i*) Rice Mills (*ii*) Small Hullers	246
14. No. of employed by	
(*i*) Rice mills (*ii*) Small Sullers	3128
(*iii*) hand-pounding	No information.

15. Total annual rice output in tons by—

(*i*) Rice Mills (*ii*) Small Hullers	2,00,000 to 5,00,000 tons.
(*iii*) Hand-pounding	9,00,000 tons.

16. Percentage of normal recovery of rice from paddy—

(*i*) Rice Mills (*ii*) Small Hullers	25 seers from 1 maund paddy.
(*iii*) Hand-pounding	A little more than 25 seers but with greater percentage of brokens.

17. Cost of milling per md. of paddy by—

(*i*) Rice mills (*ii*) Small Hullers	-/8/- to Re. 1/- per md.
(*iii*) Hand-pounding	Re. 1/- to 1/8/- per md.

18. Average daily rice output by—

(*i*) Rice Mills (*ii*) Small Hullers	660 tons to 1,600 tons.
(*iii*) Hand-pounding	3,000 tons.

19. Acreage under pulses . . . 1,72,275 acres

20. Annual production of pulses . . 30,543 tons.

Name of State—MADRAS

1. Population in lakhs (1951 census) . . . 357

2. Percentage of rural population (1951 census) . 78·10

3. Percentage of population dependent on agriculure (1951 census) . . . . . 61·54

4. Percentage of population of landless cultivating labourers with dependents (1951 census) . . . 17·31

5. Density of population per square mile (1951 census)

   (*i*) Total 594

   (*ii*) Rural 477

6. Average size of agricultural holding per land owning agriculural family (1950-51) . . 3·30 acres. (*a*)

7. Cultivated land *per capita* in acre (1951) . . 0·42 acres

8. Acreage under principal food crops in thousand acres (1950-51) . . . . . .

Crop	Composite Madras State	Residuary Madras State
	(Area in thousand acres)	
Paddy	9,870	5,560
Cholam	4,532	1,502
Cumbu	2,125	1,160
Ragi	1,417	810
Korra	1,381	82
Varagu	885	621
Samai	525	412
Maize	38	10
Wheat	17	3
Other cereals	593	152
Total cereals . .	21,383	10,312

9. Proportion of principal foodgrains consumed in the State.

Average for the five years ended 1952-53 for the composite Madras State, Rice 63%, Milets 35%, Wheat and Wheatproducts 2%.

10. Rice consumption in the State in thousand tons.

Average for the composite Madras State for the five years ended 1952-53 : 4,078 thousand tons.

11. Annual average rice import into or export from the State during the period of control.

Average for the Kharif years 1943-44 to 1950-51 for the Composite Madras State. Imports 179,040 tons; Exports : 95,540 tons.

12. Rice Production in the State in thousand tons (1950-51).

Composite Madras State	Residuary Madras State
(in thousand tons)	
4,055	2,194

13. No. of (*i*) rice mills
(*ii*) small hullers

Information awaited from Collectors.

14. No. of persons employed by—
(*i*) rice mills.
(*ii*) small hullers.
(*iii*) hand-pounding.

Information awaited from Collectors.

15. Total annual rice output in thousand tons.	Information awaited from Collectors.	
(*i*) rice hullers.		
(*ii*) small hullers.		
(*iii*) hand-pounding.		
16. Percentage of normal recovery of rice from paddy by—	Raw	Parboiled
(*i*) rice mills	69—71	71—73
(*ii*) small hullers	71—72	72—74
(*iii*) hand-pounding	72—73	74—75
17. Cost of milling per maund or paddy by—	Rs. As. P.	Rs. As. P.
(*i*) rice mills (hullers and shellers)	0 3 0	0 4 0
(*ii*) small hullers	0 5 0	0 6 0
(*iii*) hand-pounding	0 8 0	0 12 0
18. Average daily rice output by—		
(*i*) a rice mill (Commercial)	2,000 maunds rice.	
(*ii*) a small huller	500 maunds rice.	
(*iii*) a hand-pounding implement	1/2 to 3/4th maund per head (as they work in team).	
19. Acreage under pulses (in acres). Excluding horsegram (1950-51).	Composite States 1,531,118 acres Residuary Madras State 617,799 acres.	
20. Annual production of pulses in terms of unhusked pulses (in tons) Excluding horsegram (1950-51).	Composite States 1,54,460 tons. Residuary Madras State 55,410 tons.	
(*a*) Average extent of holding per patta.		

Name of State—Travancore-Cochin

	As per 1951 census	Estimate for 1955
1. Population in lakhs	92·80	99·81
2. Percentage of rural population	..	84
3. Percentage of population dependent on agriculture	..	55
4. Percentage of population of landless cultivating labourers with dependents	..	20
5. Density of population per square mile—		
(*i*) Total	1015	1092
(*ii*) Rural	881	948

6. Average size of agricultural holding per land-owning agricultural family	3·83	3·58
7. Cultivated land *per capita* in acre.	0·30	0·28
8. Acreage under principal food crops in thousand acres—		
(*i*) Rice	800 (Average for 1950-54).	
(*ii*) Other cereals	18 (Average for 1954-55).	
(*iii*) Tapioca	525 (Average for 1949-53).	
9. Proportion of principal foodgrains consumed in the State.	The principal foodgrain consumed in the State is rice. The annual production of rice in the State is only 2,75,000 tons and this will suffice to meet only 40% of the total requirements of the State.	
10. Rice consumption in the State in thousand tons.	In normal times the total consumption of rice will be above 7 lakh tons per annum.	
11. Annual average rice import into or export from the State during period of control.	There was an average annual import of 3·5 lakh tons of rice into the State during the period of control.	
12. Rice production in the State in thousand tons.	275 thousand tons per annum on an average.	
13. No. of (*i*) rice mills—22 (*ii*) small hullers—388	(Two mills are fitted with sheller type machines, one in Nagercoil and the other in Trivandrum).	
14. No. employed by—		
(*i*) rice mills	502	
(*ii*) small hullers	2498	
(*iii*) hand-pounding	50,000	
15. Total annual rice output in tons by—		
(*i*) rice mills (*ii*) small hullers	75,000 approximately.	
(*iii*) hand-pounding	2,00,000 approximately.	
16. Percentage of normal recovery of rice from paddy in—		
(*i*) rice mills (*ii*) small hullers	48 to 52% by volume 67% by Wt.	
(*iii*) hand-pounding	50 to 55% by volume 70% by Wt.	

17. Cost of milling per maund of paddy by (*i*) rice mills . (*ii*) small hullers	Annas seven for dehusking alone. Annas twelve for whole process of boiling to dehusking.
(*iii*) hand-pounding . .	Rs. 1/4/- for the whole process of boiling to dehusking.
18. Average daily rice output by (*i*) a rice mill . . . (*ii*) a small huller . .	If a huller works for hours it may dehusk 200 to 250 maunds.
(*iii*) a hand-pounding implement .	4 paras (0·8 maunds) paddy daily.
19. Acreage under pulses . . .	Negligible.
20. Annual production of pulses .	Negligible.

Name of State—Orissa

1. Percentage of rural population .	95·94
2. Percentage of population dependent on agriculture	79·29
3. Percentage of landless agricultural labour	12·31
4. Density of population per square mile.	244
5. Average size of agricultural holding per land owning agricultural family	
6. Cultivated land *per capita* in acre .	0·82 acres.
7. (*a*) Acreage under rice . .	95,29,000 acres
(*b*) Acreage under pulses . .	12,03,569 ,,
8. Proportion of principal foodgrain consumed in the State . .	80%
9. Rice consumption in the State .	Approximately 20 lakh tons.
10. Annual average rice import or export from the State during period of control	Export—2,40,000 tons.
11. Rice production in the State in thousand tons	Between 22 lakh 0·30 lakh tons.
12. Number of (*i*) rice mills . .	88
(*ii*) small hullers .	(Figures not available) approximately 500.

13. No. employed by—	
(*i*) rice mills	Approximately 6000—8000
(*ii*) small hullers . . .	Approximately 1000
(*iii*) hand-pounding . . .	Exact figure cannot be assessed but it is more than 10,00,000.
14. Total annual rice output in tons by—	
(*i*) rice mills	Approximately 2,60,000 tons.
(*ii*) small hullers . . .	Approximately 10,000 tons.
(*iii*) hand-pounding . . .	Between 25 to 30 lakh tons.
15. Percentage of normal recovery of rice from paddy in—	
(*i*) rice mills	(63·4 to 64·7) average 64%
(*ii*) small hullers . . .	Do.
(*iii*) hand-pounding . . .	65 to 71%
16. Cost of milling per md. of paddy by—	
(*i*) rice mills	Re. 0-8-0 per maund.
(*ii*) small hullers . . .	Approximately by Re. 0-8-0 per md.
(*iii*) hand-pounding . . .	Re. 0-12-0 per maund.
17. Average daily rice output by—	
(*i*) rice mills	87,860 maunds.
(*ii*) small hullers . . .	90 maunds.
(*iii*) hand-pounding implements (Dhenki)	2 to 3 mds.

Name of State—Punjab

1. Population in lakhs . . .	126·41
2. Percentage of rural population .	81·0
3. Percentage of population dependent on agriculture . . .	64·5
4. Percentage of population of landless cultivating labourers with dependents	7·7
5. Density of population per square mile—	
(*i*) Total	338
(*ii*) Rural	285
6. Average size of agricultural holding per land-owning agricultural family	6·95 acres
7. Cultivated land *per capita* in acre	1·1 acre

8. Acreage under principal food crops in thousand acres (wheat, barley, gram, paddy, maize, jowar and bajra).	104,85 thousand acres during 1953-54.
9. Proportion of principal foodgrains consumed in the state . .	..
10. Rice consumption (husked rice) in the State.	113 thousand tons on an average during 1951-52 and 1952-53.
11. Annual average rice (husked) import into or export from the State during period of control.	Import — Nil. Average export 53 thousand tons annually during 1951-52 and 1952-53.
12. Rice production in the State in thousand tons.	Average production of 166 thousand tons, during 1951-52 and 1952-53.
13. No. of (*i*) rice mills . . .	..
(*ii*) Small hullers . .	..
14. No. of employed by—	
(*i*) rice mills	..
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	..
15. Total annual rice output in thousand tons by—	
(*i*) rice mills	..
(*ii*) small hullers . .	..
(*iii*) hand-pounding . . .	..
16. Percentage of normal recovery of rice from paddy—	
(*i*) rice mills	..
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	..
17. Cost of milling per maund of paddy by—	
(*i*) rice mills	..
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	..
18. Average daily rice output by—	
(*i*) rice mills	..
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	..

19. Acreage under pulses (Kharif and Rabi) (masur, mash, mung, moth, peas etc. other than gram*).	490 thousand acres (according to 1st forecast 1954-55).
20. Annual production of pulses .	Will be supplied later on.
21. No. of dal mills during each of the last five years	..
22. Annual production of dal . .	..
23. Total labour employed by dal mills	..
24. Quantity of dal annually exported by State	..

*Area and production of gram is included above under item 7, among the principal foodgrains crops. Area under gram during 1953-54 was 2,67,81,000 acres whereas the estimated yield was 1,008 thousand tons. In case it is desirable to arrive at the total area under pulses in the State the figures of area and production under gram may be included in the figures of area and production of pulses given against items 19 and 20.

Name of State—Coorg

1. Population in lakhs . . .	2·3
2. Percentage of rural population .	93
3. Percentage of population dependent on agriculture	58
4. Percentage of landless cultivating labourers with dependents . .	11
5. Density of population per sq. mile	
(*i*) Total	145
(*ii*) Rural	135
6. Average size of agricultural holding per landowning agricultural family	7·7 acres.
7. Cultivated land *per capita* in acre	·71
8. Acreage under principal foodcrops in thousand acres.	
Rice	94
Coffee	44
Ragi	43
9. Proportion of principal foodgrains consumed in the State.	
Rice	97%
Ragi	3%
10. Rice consumption in the State in thousand tons	36

11. Annual average rice import into or export from the State during control period . . . . . Export—14,500 tons.

12. Rice production in the State in thousand tons 40

13. No. of—

(*i*) rice mills 21
(*ii*) small hullers . . . 8

14. No. employed by—

(*i*) rice mills . . . . } 187
(*ii*) small hullers . . . }
(*iii*) hand-pounding . . . . ..

15. Total annual rice output in thousand tons by—

(*i*) rice mills . . . . } 23
(*ii*) small hulllers . . }
(*iii*) hand-pounding . . . 20

16. Percentage of normal recovery of rice from paddy in—

(*i*) rice mills . . . . } 54
(*ii*) small hullers . . }
(*iii*) hand-pounding . . . 52

17. Cost of milling per md. of paddy by—

(*i*) rice mills . . . . . } Re. -/12/-.
(*ii*) small hullers . . . }
(*iii*) hand-pounding . . . Rs. 1/9/-

18. Average daily output of paddy by—

(*i*) a rice mill . . . 300 mds.
(*ii*) a small huller . . . ..
(*iii*) a hand-pounding implement . 3 mds. by 2 persons.

19. Acreage under pulses in thousand acres 4

20. Annual production of pulses in thousand tons . . . 1

Agricultural Statistics in Uttar Pradesh

1. Population (total) . . . 632 lakhs.
2. Rural Population . . . 86·4% of total.
3. Population dependent on Agriculture . . . . . 74·2% of total.

4. Population of landless cultivating labourers with dependents . .	5·7% of total.
5. Density of population per square mile—	
(*i*) Total	557
(*ii*) Rural	487
6. Average size of Agricultural holding per land owning Agricultural family	3·4 acres.
7. Cultivated land *per capita* (1950-51 figures)	0·65 acres.
8. Area under principal foodcrops in thousand acres (5 years average ending 1953-54) . . .	35,466
9. Proportion of principal foodgrains consumed in the State (Production percentage)—	
Wheat	27·3%
Rice	20 ·6%
Gram	16·6%
Barley	16·9%
Millets	18·6%
10. Rice consumption in the State (thousand tons).	Average 5 years ending 1949-50—2093.
	Average 5 years ending 1954-55—1894.
11. Annual average import or export of rice ('000 tons).	Average 5 years ending 1949-50—7·3 Net Import.
	Average 5 years ending 1954-55—39·6 Net Export.
12. Rice production in the State (in '000 tons).	Average 5 years ending 1949-50—2086.
	Average 5 years ending 1954-55—1934.

Name of State—Madhya Pradesh

1. Population in lakhs . . .	212·5
2. Percentage of rural population about	86·0%
3. Percentage of population dependent on agriculture . . .	76%

4. Percentage of population of landless cultivating labourers with dependents	25%
5. Density of population per square mile—	
(*i*) Total	163 (Census report of 1951).
(*ii*) Rural	146 Do.
6. Average size of agricultural holding per landowning agricultural family	11 acres approximately.
7. Cultivated land *per capita* in acre	1·35 acres
8. Acreage under principal foodcrops in thousand acres—(Average—1951-52 to 1953-54)—	
Rice	8,991·0
Wheat	2,752·0
Juar	4,887·0
9. Proportion of principal foodgrains to the total consumed in the State—	
Rice	56·5%
Juar	31·5%
Wheat	12·0%
10. Rice consumption in the State in thousand tons.	For food, 2,113·8 (Average during ten triennium ending 1953-54.)
11. Annual average rice import into or export from the State during period of control—(1942-43 to 1951-52).	Average annual Export from Madhya Pradesh 2,860·5 thousand maunds during control period.
12. Rice production in the State in thousand tons.	Average production for triennium ending 1953-54 —2,626·5.
13. No. of (*i*) rice mills—413. (*ii*) small hullers—312	725
14. No. employed by—	
(*i*) rice mills	4,477
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	..
15. Total annual rice output in thousand tons by—	
(*i*) rice mills	5 lakh tons full polished rice.
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . . .	18 lakhs.

16. Percentage of normal recovery of rice from paddy in—	
(*i*) rice mills	74% including brokens and 67·5 per cent. polished rice bran.
(*ii*) small hullers	
(*iii*) hand-pounding . . .	Slightly higher % of rice but more brokens.
17. Cost of milling per maund of paddy by—	
(*i*) rice mills	Average -/6/- per maund.
(*ii*) small hullers . . .	———
(*iii*) hand-pounding . . .	-/14/- per maund.
18. Average daily rice output by—	
(*i*) a rice mill	150 to 200 bags in three shifts.
(*ii*) small hullers . . .	10 bags in eight hours.
(*iii*) a hand-pounding implement—	
(*a*) clay chakkies . . .	4 maunds paddy.
(*b*) dhenkies . . .	2·3/4 maunds paddy.
(*c*) Pestle and mortar . .	1 maund paddy.
19. Acreage under pulses . . .	58·78 lakh acres.
20. Annual production of pulses .	11·20 lakh tons.

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Name of State—Bihar

1. Population in lakhs . . .	402
2. Percentage of rural population .	93
3. Percentage of population dependent on agriculture . . .	86
4. Percentage of population of landless cultivating labourers with dependents	22
5. Density of population per sq. mile—	
(*i*) Total	572
(*ii*) Rural	534
6. Average size of agricultural holding per landowning agricultural family	3·43 acres.
7. Cultivated land *per capita* in acre .	·55 acres
8. Acreage under principal foodcrops in thousand acres.	19,774 thousand acres (paddy maize, wheat, gram, millets and arhar).
9. Proportion of principal foodgrains consumed in the State . .	..

10. Rice Consumption in the State in thousand tons.	3800 thousand tons per year.
11. Annual average rice import into or export from the State during period of control.	Import—229 thousand tons. Export—26 thousand tons. Net import—203 thousand tons.
12. Rice production in the State in thousand tons.	3600 per year.
13. No. of (*i*) rice mills . . .	148
(*ii*) small hullers . .	620
14. No. employed by—	
(*i*) rice mills	2500 to 3000
(*ii*) small hullers . . .	1200 (estimated).
(*iii*) hand-pounding . . .	58000 (estimated) part employment for six months.
15. Total annual rice output in thousand tons by—	
(*i*) rice mills	100 thousand tons.
(*ii*) small hullers . . .	
(*iii*) hand-pounding . .	3500 thousand tons.
16. Percentage of normal recovery of rice from paddy—	
(*i*) rice mills	62 but from Kosi are as' paddy 64 to 65.
(*ii*) small hullers . . .	..
(*iii*) hand-pounding . .	66
17. Cost of milling per md. of paddy by—	
(*i*) rice mills	-/12/- per md.
(*ii*) small hullers . . .	-/8/- „ „
(*iii*) hand-pounding . . .	1/- „ „ estimated.
18. Average daily rice output by—	
(*i*) rice mill	..
(*ii*) small huller . . .	..
(*iii*) hand-pounding . . .	..
19. Acreage under pulses . . .	6099 thousand acres.

———=

Name of State—West Bengal

1. Population in lakhs' . . .	256
2. Percentage of rural population .	75·2
3. Percentage of population dependent on agriculture	57·2
4. Percentage of landless cultivating labourers with dependents . .	11·7
5. Density of population per sq. mile—	
(*i*) Total	806
(*ii*) Rural	635

6. Average size of agricultural holding per landowning agricultural family	3·1 acres
7. Cultivated land *per capita* in acre .	·45
8. Acreage under principal foodcrops in thousand acres . . .	Rice—10547
9. Proportion of principal foodgrains consumed in the State . .	Rice—90% Wheat—10%
10. Rice consumption in the State in thousand tons . . .	3597
11. Annual average rice import into or export from the State during control period	Import 2 lakh tons.
12. Rice production in the State in thousand tons . . .	5225
13. No. of—	
(*i*) rice mills	403
(*ii*) small hullers . . .	5000
14. No. employed by—	
(*i*) rice mills	30884
(*ii*) small hullers . . .	10000
(*iii*) hand-pounding . .	12 lakhs
15. Total annual rice output thousand tons by—	
(*i*) rice mills . . .	800
(*ii*) small hullers . . .	600
(*iii*) hand-pounding . . .	3300
16. Percentage of normal recovery of rice from paddy in—	
(*i*) rice mills . . .	67
(*ii*) small hullers . . .	67
(*iii*) hand-pounding . .	70
17. Cost of milling per md. of paddy by—	
(*i*) a rice mill	-/13/-
(*ii*) small hullers . . .	-/8/-
(*iii*) hand-pounding . . .	1/4/-
18. Average daily output of paddy by—	
(*i*) a rice mill	15 tons
(*ii*) a small buller . . .	1½ tons.
(*iii*) a hand-pounding implement .	1½ mds.
19. Acreage under pulses in thousand acres	1691
20. Annual production of pulses in thousand tons	416

Name of State—Bombay

1. Population in lakhs . . .	360
2. Percentage of rural population .	68·9
3. Percentage of population dependent on agriculture . . .	61·5
4. Percentage of landless cultivating labourers with dependents . .	9·05
5. Density of population per sq. mile—	
(*i*) Total	323
(*ii*) Rural	239
6. Average size of agricultural holding per landowning agricultural family	..
7. Cultivated land *per capita* in acre .	1·18
8. Acreage under principal foodcrops in thousand acres . . .	Rice 3197
9. Proportion of principal foodgrains consumed in the State . .	Rice— Wheat—
10. Rice consumption in the State in thousand tons . . .	
11. Annual average rice import into or export from the State during control period	Import 2 lakh tons Export 70000 tons
12. Rice production in the State in thousand tons	1301
13. No. of—	
(*i*) rice mills	509
(*ii*) small hullers . . .	3229
14. No. employed by—	
(*i*) rice mills	5397
(*ii*) small hullers . . .	
(*iii*) hand-pounding . . .	
15. Total annual rice output in thousand tons by—	
(*i*) rice mills . . . . }	720
(*ii*) small hullers . . . }	
(*iii*) hand-pounding . . .	511
16. Percentage of normal recovery of rice from paddy in—	
(*i*) rice mills	72
(*ii*) small hullers . . .	64
(*iii*) hand-pounding . . .	71

17. Cost of milling per md. of paddy by—
    (*i*) rice mills . . . . -/8/-
    (*ii*) small hullers . . . -/12/-
    (*iii*) hand-pounding . . . 1/8/-

18. Average daily output of paddy by—
    (*i*) a rice mill
    (*ii*) a small huller
    (*iii*) a hand-pounding implement

19. Acreage under pulses in thousand acres 3488

20. Annual production of pulses in thousand tons . . . 556

Name of State—Mysore

1. Population in lakhs . . . 91

2. Percentage of rural population . 75·8

3. Percentage of population dependent on agriculture . . . . 70·3

4. Percentage of landless cultivating labourers with dependents . 6·6

5. Density of population per sq. mile
    (*i*) Total 312
    (*ii*) Rural 240

6. Average size of agricultural holding per landowning agricultural family

7. Cultivated land per capita in acre .

8. Acreage under principal foodcrops in thousand acres . . . Rice 857

9. Proportion of principal foodgrains consumed in the State . . Rice—Wheat

10. Rice consumption in the State in thousand tons

11. Annual average rice import into or export from the State during control period . . . . import

12. Rice production in the State in thousand tons . . . 436

13. No. of
    (*i*) rice mills 282
    (*ii*) small hullers . . . 1768

14. No. employed	
(*i*) rice mills	(*i*) 4511
(*ii*) small hullers	
(*iii*) hand-pounding	
15. Total annual rice output in thousand tons by	
(*i*) rice mills	150
(*ii*) small hullers	226
(*iii*) hand-pounding	17
16. Percentage if normal recovery of rice from paddy in—	
(*i*) rice mills	54
(*ii*) small hullers	
(*iii*) hand-pounding	54
17. Cost of milling per md. of paddy by—	
(*i*) rice mills	-/10/-
(*ii*) small hullers	-/12/-
(*iii*) hand-pounding	1/13/-
18. Average daily output of paddy by—	
(*i*) rice mill	250 pallas
(*ii*) a small huller	25 „
(*iii*) a hand-pounding implement	1½ „
19. Acreage under pulses in thousand acres	1070
20. Annual production of pulses in thousand tons	97

Name of State—Hyderabad

1. Population in lakhs	187
(a) Actual population	186,55,108
2. Percentage of rural population	81·4
3. Percentage of population dependent on agriculture	68·2
4. Percentage of population of landless cultivating labourers with dependents	Not available
(*a*) Percentage of agricultural labourers and their dependents to total agricultural population of the State	25·17
(*b*) Percentage of agricultural labourers and their dependents to total population of the State	17·15

5. Density of population per sq. mile
   1. Total (for the State) . . 227
   2. Rural area of the State . . 185

6. Average size of agricultural holding per landowning agricultural family . . . . . Under compilation

7. Cultivated land *per capita* in acre . 1·13

8. Acreage under principal foodcrops in thousand acres . . .

	Rice.	Wheat	Jowar & other grains
1943	585	12421	

9. Proportion of principal foodgrains consumed in the State . .

	39	21	40

10. Rice consumption in the State in thousand tons . . . 74

11. Annual average rice import into or export from the State during the period of control . . Import 13,380 tons Export—Nil

12. Rice production in the State in thousand tons (1953-54) . . 630

13. No. of rice mills
   1. rice mills 343
   2. small hullers . . . 341

14. No. employed by
   1. rice mills 4040
   2. small hullers . 341
   3. hand-pounding . . . ..

15. Total annual rice output in thousand tons during (1954) by
   1. rice mills 43
   2. small hullers
   3. hand-pounding

16. Percentage of normal recovery of rice from paddy in—
   1. rice mills . . . . 63% to 73%
   2. small hullers . . . 64% to 69%
   3. hand pounding

17. Cost of milling per maund
   1. rice mills . . . . As. -/8/-
   2. small hullers . . . -/8/- to /10/-
   3. hand-pounding . . Not available.

18. Average daily rice output by—	
1. rice mills	60 to 70 pallas per shift of 8 hrs.
2. small hullers . . .	20 to 30 „ „ „
3. hand-pounding implement .	
19. Acreage under pulses . .	53,76,470
20. Annual production of pulses .	6,08,900 tons.

Name of State —Andhra

1. Population in lakhs . . .	205
2. Percentage of rural population .	84
3. Percentage of population dependent on agriculture	70
4. Percentage of population of landless cultivating labourers with dependents	27
5. Density of population per sq. mile	
(*i*) Total	322
(*ii*) Rural	256
6. Average size of agricultural holding per landowning agricultural family.	The number of holdings per family in the Andhra State is not available. The total number of pattas according to the Report on the settlement of Land Revenue for fasli 1360 was 2082, 100 (single and joint pattas) in the Andhra State their total extent (wet and dry combined) was 10,765,834 acres. The average size of a patta therefore works out to 5·13 acres. It may however, be pointed out that a family is likely to hold more than one patta (holding) and there might be several families holding the same patta.
7. Cultivated land *per capita* in acre .	0·76
8. Area under principal foodcrops in thousand acres . . .	13693
9. Proportion of principal foodgrains consumed in the State . .	Food grains — Proportion of each grain to the total consumption of all grains
	Rice . 58·0
	Cholam (Jowar) 18·0%
	Cumbu (Bajra) 8·2%
	Ragi 8·6%
	Other millets 7·2%

10. Rice consumption in the State in thousand tons	1685 tons
11. Annual average rice import into or export from the State during period of control.	The average export of rice during 1945-46 to 1948-49:3,48,704 tons. Average import from outside the State : 55,182 tons.
12. Rice production in the State in thousand tons . . .	1778
13. No. of—	
(*i*) rice mills—shellers . .	759
(*ii*) small hullers—hullers . .	2802
14. No. employed by—	
(*i*) rice mills—shellers . .	12880
(*ii*) small hullers—hullers . .	12874
(*iii*) hand-pounding . . .	As per census of 1951 , 2,746 persons. But this figure may not be accurate as there should be more number of persons than 2,746 in this industry.
15. Total annual rice output—	
(*i*) rice mills—shellers . .	644992
(*ii*) small hullers—hullers .	313277
(*iii*) hand-pounding . .	38892·5
16. Percentage of normal recovery of rice from paddy in—	
(*i*) rice mills—shellers . .	50-75
(*ii*) small hullers—hullers . .	50-72
(*iii*) hand-pounding . . .	50-73
17. Cost of milling per md. of paddy by—	
(*i*) rice mills—shellers . .	6 As. per maund.
(*ii*) small hullers—hullers . .	4 As to 5 As. per maund.
(*iii*) hand-pounding . . .	Rs. 1/- to 1/8/0 per maund.
18. Average daily rice output by—	
(*i*) a rice mill—shellers. The output in the mills varies according to their capacity.	200 mds. to 1,000 mds. (The output of 1,000 mds. per day is rare and the average output can be taken as 400 mds. per day of 8 hours.)
(*ii*) a small huller—hullers . .	80 mds. per day of 8 hours.
(*iii*) a hand-pounding implement .	3 women i.e. 2 for pounding and one for winnowing $1\frac{1}{2}$ bags or 3 mds. in 8 hours.

19. Acreage under pulses

Name of crop.	*Acreage* (acres)
Bengalgram	94,000
Redgram	192,000
Greengram	323,000
Blackgram	152,000
Horsegram	731,000
Other pulses	58,000
	1550,000

20. Annual production of pulses

Name of crop	*Production* (tons)
Bengalgram	14,000
Redgram	15,000
Greengram	26,000
Blackgram	14,000
Horsegram	41,000
Other pulses	3,000
	113,000

.046
.051
.066
.081
.136
.177
.205
.234
MADHYA PRADESH
GOA
MANIPUR
RAJASTHAN
TRIPURA
UTTAR PRADESH
JAMMU & KASHMIR
PUNJAB

APPENDIX VIII

EXTRACT FROM THE ALL INDIA RURAL CREDIT SURVEY REPORT OF THE RESERVE BANK OF INDIA RELATING TO CO-OPERATING ORGANISATION FOR PROCESSING AND MARKETING OF AGRICULTURAL PRODUCE, PARAGRAPH 5, 6, 8, CHAPTER 27, VOL. II.

We may go on to the other two stages, namely, processing and marketing. In regard to these two items, the importance of planned co-operative development, and of effective State participation which alone can bring about the development, can hardly be exaggerated. Here again the partnership of the State will involve the provision by it of financial, technical and administrative assistance. It is, therefore, necessary to examine how best a programme of this kind can be devised; and, as in the case of storage, it is only in broad outline (to be later filled in) that the solution is proposed to be considered at this stage. It will be recalled that we are proceeding on the assumption, which seems very valid, that as regards planned co-ordination and financial provision at the all-India level, the broad division of functions is that the Reserve Bank should look after the credit programme and the Government of India after the other parts of the economic programme, the main responsibility in either case resting with the State Governments. It follows from this that, in conjunction with the State Governments, the Ministry of Food and Agriculture should be associated with the development of Co-operative processing and co-operative marketing on a nation-wide scale. In other words, the Ministry would have to be institutionally linked with this part of the programme no less than with the one concerned with the development of storage, warehousing and distribution. For the latter, we have mentioned a National Board as providing the link. We envisage the Board as equally serving the purpose of an all-India planning, financing and co-ordinating body in the context of the development, by State Governments, of co-operative marketing, co-operative processing and other co-operative economic activity. An appropriate designation for this body would therefore be, the National Co-operative Development and Warehousing Board. It is necessary to bear in mind that the functions which fall to be discharged in a programme for State participation in Co-operative economic activity, such as processing and marketing are essentially State functions—the State in this case meaning the State Government—even though they will be State functions which are positively aligned to co-operative activity at the base. On the other hand, warehousing and distribution, the one as a business proposition and the other as an agency function, can well be expected to be taken up at the higher levels and under the guidance of the Board, by a corporation (and its auxiliary companies) in which different business and financial interests, besides the Government of India and State Governments, are represented. There will therefore be two lines of co-ordination meeting in the

National Co-operative Development and Warehousing Board: (1) one relatable to storage, warehousing and distribution and connecting the Board to the all-India corporation, the state warehousing companies and appropriate co-operative societies and (2) the other relatable to co-operative economic development (processing, marketing, etc.) and connecting the Board to the State Governments, their co-operative departments, and here again the relevant types of co-operative societies. In the latter case as in that of development of co-operative credit, the main functions at the All-India level, besides planning and co-ordination, would be the making of adequate financial provision for certain purposes such as (1) advancing loans to State Governments so that they can, irrespective of their current financial positions, contribute to the share capital of processing and marketing societies (it may often be that one and the same society discharges both the functions) and (2) giving subsidies to State Governments so that, together with their own contributions, the State Governments may be able to subsidize societies to the extent necessary. It is of course important that the programmes should be launched after the relevant conditions of a particular area are studied, finance is adequately provided, and the full complement of trained personnel is secured. In other words, every precaution must be taken that the initial 'experiments' if indeed they may so be called, are assured of the maximum prospect of success.

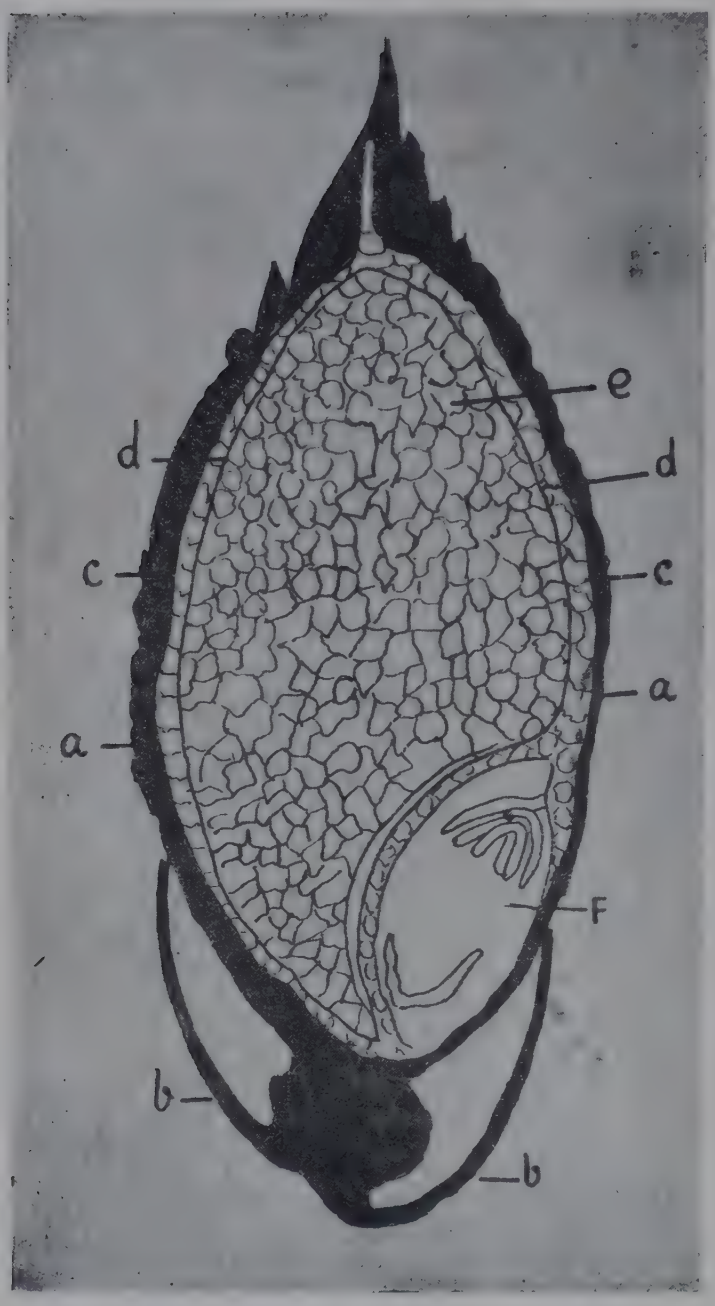
That takes us to the point that a programme of 'co-operative development' (apart from the development of co-operative credit for which other arrangements have been suggested) must include a great deal besides processing and marketing, though these two, from the point of view of economic reorganization, are undoubtedly the most strategic. The question of cottage industries need not detain us here; we shall have occasion in Chapter 44 to make a few suggestions on this subject which, extremely important though it is in the total context of our enquiry, is not quite directly within the actual scope of our investigation. Storage, warehousing and distribution of basic commodities we have separately dealt with. Even so, a full list of economic activity on the co-operative basis would, besides processing and marketing, include consolidation of holdings, bunding, farming, irrigation, livestock-breeding, dairying and fisheries. The development of these and similar activities, by provision of finance and technical services, and by proper administration, will be one of the two main objects of the National Co-operative Development and Warehousing Board. As we envisage it, the Board's function in respect of co-operative development will in turn be two-fold. There is first of all the planning of such development on the basis of the joint participation of Government and the co-operatives. Secondly, there is the financing of the development; this, as we have mentioned, will take the form of loans, in preference, and subsidies, where necessary, to State Governments. Both loan and subsidy could be made dependent on the State Government itself contributing its due share to the financing of each project or of each scheme comprising different projects. While loans would, of course, be made repayable at reasonable rates of interest over a suitable period of years, there should ordinarily be no reason why the loans should cover the whole outlay of the State Governments. Similarly, the subsidy need not cover the whole gap between cost return. Gradations could be laid down for

both loans and subsidies. A State Government which happens to be relatively well placed in regard to its finances might be asked to contribute as much as, say, 75 per cent. of the outlay or, in appropriate instances, even higher. At the other end would be State Governments for which relevant percentage might have to be as little as 25 per cent.; and there would be further gradations in between. On some such basis, then, the National Co-operative Development and Warehousing Board, through a co-operative development fund, could partly finance a co-ordinated programme for which, in its own area, each State Government would be responsible. Each State Government could also set up a corresponding co-operative development fund for this purpose. The provision of trained personnel would be equally important; and here the main part of the joint responsibility would have to vest in the Central Committee for Co-operative Training. If proper plans, adequate resources in men and money, and above all, relentless drive and direction in the employment of all these, commence to bring about the desired result even in a few villages in different parts of the country, and the fruits of State-*Cum*-co-operative management of the basic economic activities of the country-side begin to be apparent to the rural producer, the prospect of generating real and active enthusiasm, not only in the villages initially covered but in wider areas beyond, would indeed be much greater than by any other means. The enthusiasm would be real and effective because the economic benefit, and along with it the enthusiasm, would for the first time reach down to the medium and small cultivator.

In regard to the extent of State partnership in societies engaged in different forms of economic activity (as in those providing credit) we would stress the great importance of making the structure from the sub-divisional and district levels upwards as strong as possible, because it is only through the provision of adequate initial strength at these higher levels that, in our view, the development of the structure at the village level is best assured. It follows that State participation in the share capital of marketing societies, processing societies, etc., at the sub-divisional level and above, should continue for an indefinite period at not less than 51 per cent. Here again, the question would arise as to what the total share capital should be at the initial and eventual stages, the former being an adequate minimum and the latter the desirable optimum. Until the optimum is reached there should not be any retirement of the Government part of the share capital at the sub-divisional and higher levels, even if it happens to be over 51 per cent. On the contrary, both Government and the co-operative participants should go on adding (in suitable proportion *inter se*) to the share capital until the optimum is reached. Thereafter, there would be retirement of Government's part of the share capital, but not so as, at the higher levels, to reduce the State's holding to below 51 per cent. At the lower levels, that is to say, for marketing societies, processing societies, dairying societies, etc., operating over smaller areas than a sub-division, the pace of retirement of the State's share of the capital through contributions (compulsory and voluntary) from the other members may be such as definitely to bring about the replacement of the whole of Government's share in a phased manner over a reasonably short period of years.

APPENDIX IX

Structure of Rice grain



(a) The hull of husk consisting of two ridged inner glumes.

(b) The two outer glumes.

(c) The thin layer cover consisting of the remains of the ovary walls (seed coat or pericarp.)

(d) The aleurone layer.

(e) The starchy core of the kernel.

(f) The germ or embryo.

EXTRACT FROM F.A.O's PUBLICATION "EQUIPMENT FOR THE PROCESSING OF RICE" (& 5.)

The paddy grain (see Figure 1) is composed of:

1. A hard outer hull or husk (a) to which the grain itself is attached. The hard husk, covered with small needlelike hairs, is high in silica content. While it is used sometimes as a part of livestock feed, this is not its only utilisation. The husk can be used as a fuel, and the burned ash can serve as a fertilizer which is, however, of low value. The husk consists of two ridged inner glumes and of two outer glumes (b).

The utilization of rice husks is not recommended as a livestock feed, not only because of the lack of digestible nutrients, but also because of the abrassive action of such husks on the intestinal tracts.

Husks when burned contain an amount of white silica powder which has been used in conjunction with powered fats to produce an admixture suitable for the specific purpose of cleaning soaps. In some rural industries the ash is dissolved in water and utilised as lye (Batik industry).

2. Inside the husk we find the kernel covered with bran layers. The first layer (c) is a thin cover consisting of the remains of the ovary walls (seed coat or pericarp). The bran, in rice fully ripe, is usually of light brown colour, and before its removal the grain is known as "brown rice". Other varieties, however have different coloured bran coats and some times they are nearly white, so that the general use of the term "brown rice" should not be advocated. The term "husked rice" is preferable. At one end of the kernel, and lying within the bran layers is the germ or embryo (f) which is in milling nearly always removed with the bran. Rice bran, including the germ, is high in nutritive value, and is important and valuable for livestock feeding.

3. Next to the bran, there lies a layer of appreciably different material (d) known as the "aleurone layer", which is rich in nutrients.

4. The starchy core of the kernel (e) after substantial removal of the layers described, is the white or creamy grain, used as table rice. In the industry the term "milled rice" is recommended.

APPENDIX X

COPY OF LETTER No. RP-1054, DATED 27TH MAY, 1947, FROM THE UNDER SECRETARY, DEPARTMENT OF FOOD, GOVERNMENT OF INDIA NEW DELHI, TO ALL PROVINCES, ADMINISTRATION AND, RESIDENTS.

SUBJECT:—*Popularisation of the correct method of cooking rice.*

I am directed to state that in this Department's publication "Nutrition" several suggestions have, from time to time, been made on the subject of economy and conservation of foods and the best method of their use to get the maximum nutritive value.

2. During the present period of acute scarcity of cereals, the widest popularisation of such methods is of much importance.

3. As rice is the staple cereal of a large part of the population, it is necessary to give pointed attention to its correct methods of cooking, that would ensure the fullest utilisation and retention of its nutritive elements. In this connection a reference is also invited to this Department's Circular letter No. RP-1054, dated 27th September, 1946.

4. The annexed Schedule briefly describes the methods. The subject has also been dealt with in issues numbers 3, 14 and 25 of "Nutrition".

5. The Government of India is anxious that the householders and those who cook should know and follow the suggestions in the domestic as well as in the Institutional kitchens.

6. It would be easy to ensure that they are put into practice in Government, Semi-Government, or other institutional feeding centres like poor houses, hospitals, orphanges, widows and pensioners' homes, jails, students' boarding houses, hotels, messes etc. Government Health or Food Inspectors should ensure by periodical inspections that the suggestions are adopted and are continued to be put into intelligent practice in these institutions and establishments. The same could be done with regard to other establishments like restaurants, hotels, clubs and eating houses to which the supply of cereals is controlled under rationing. The matter could also be brought to the notice of the Educational Institutions where the subjects of domestic economy, nutrition or cooking are taught. The services of Co-operative Societies and Rural Development organisations could be utilised for this propaganda.

7. It is, therefore, requested that necessary steps should be taken to publicise these matters as widely as possible and to ensure that they are put into practice in at least the institutional and other feeding centres.

8. The results of the efforts made in this behalf may please be intimated to this Department in the next quarterly report asked for under this Department's letter No. RP-1054, dated 20th December 1945.

Schedule

Subject:—*The correct method of cooking rice.*

Popular prejudice in favour of highly milled rice has persisted by a misleading association of ideas—whiteness and cleanliness. Skilful publicity on this point may remove this prejudice and bring home to the consumers that under-milled rice is more nutritious than milled rice.

2. Parboiled rice has a higher nutritive value than raw milled rice because by parboiling, some of the vitamins and other nutritive substances contained in the germ and the pericarp diffuse through the grain and cannot be removed by subsequent milling.

3. The usual practice of washing rice thoroughly before cooking, results in a considerable loss of minerals and vitamins especially of the 'B' Group. Rice of poor commercial quality naturaly tends to be given more washing than rice of good quality, and the loss of mineral matter and 'B' vitamins from such rice may be very considerable. A single light washing of rice, is therefore recommended instead of usual two or even three washings that are at present given.

4. The extent of the loss in the food value of rice depends mostly on the number of washings and whether the cooking water is used or not. If rice is washed 3 times and cooked with liberal amounts of water about 75 per cent. of iron and 50 per cent. phosphorus, vitamin B, and other vitamins of the B group originally present may be lost. It is the first washing which causes most of the loss and more vitamins pass into the washing water than into the water used in cooking.

5. Since the effect of washing of rice before cooking drastically reduces vitamin B, (the beri-beri preventing vitamin) improvement in cleanliness in bazars and shops where rice is exposed for sale would reduce the necessity for vigorous and repeated washing.

6. The ideal method of cooking rice is to use just enough water which would get fully absorbed in the rice. The correct amount of water will necessarily depend on the method of heating and the cooking quality of any particular variety of rice. Some kinds of rice will require less quantity of water than the others so as to get the proper consistency of cooked rice. If water is insufficient, the rice will not be cooked properly while more water than what is necessary would result in excess water being left over. In cooking, therefore, the least possible amount of water should be used and if any excess water remains, it should not be thrown away. This is often done in the households, with the result that valuable minerals and vitamins are lost. Any excess water left should be used in the preparation of vegetables, dals and other edibles like puddings. It may be pointed out that the time for cooking dals is redu ed if the rice water is used instead of ordinary water.

7. Even though domestic steam cookers are being used in some households, it has not been generally realised even by educated householders that steam cooking of rice conserves practically the whole amount of edible matter. The easy method of educating people in this process would be to induce hotels and large boarding establishments to adopt steam cooking of rice. Steam cookers can be improvised a cheap price.

8. The experiment of steam cooking is being carried out at the Square Meal Canteen in the Bombay Secretariat in order to ascertain whether steam cooking can save cereals in the long run and whether it is possible to introduce it efficiently with a little extra cost and with the aid of the cooking vessels generally in use in eating establishments.

9. The present time, when supplies of cereals to hotels and establishments are controlled, is most opportune for initiating such measures. They, however, must mainly depend for being generally adopted, upon wide and persistent propaganda and publicity.

Summary.

(a) Par-boiled rice should be consumed in preference to raw rice.

(b) Rice should be given a single light washing with water before cooking.

(c) Either all the water used in cooking should be absorbed by the rice or the excess water should be utilised in preparing other dishes like dals, vegetable curries, etc.

(d) Steam cooking may be done wherever possible.

(e) The reforms may be introduced first in Government controlled institutions and large establishments like hotels, canteens etc.

APPENDIX XI

ITINERARY OF THE RICE MILLING COMMITTEE

Month & date	Place	
November 1954		
6th & 7th	Delhi	. Meeting—Issue of circular letter.
December 1954	WEST BENGAL	
3rd	Calcutta	. Meeting with Ministers, Officials and non-Officials. Visited Rice mills and Sodepur Khadi Pratisthan.
4th	Bolepur	. Visited centres and Shanti-nekatan.
5th	Calcutta	. Visited Diamond Harbour.
6th	Calcutta	. Meeting with officials and non-officials at Calcutta. Meeting with Governor.
7th	Do.	. Do.
	BOMBAY	
23rd	Bombay	. Meeting with Chief Minister, Ministers and officials.
24th	Do.	Visited Dandekar Machine Works at Bhivandi—Meeting with non-officials representing hand-pounding industry and Mills.
25th	Ahmedabad	. Visited Mills and inteview with non-official at Circuit House.
26th	Nadiad	. Visited All India Hand-pounding training Centre. Interviews with non-officials.
27th	Bulsar	. Visited hand-pounding centre and Mills. Interviews with non-officials.
28th	Bombay	. Meeting with non-officials representing Mill-owners and Hand-pounding industry.
29th	Poona	. Meeting with officials and non-officials.
30th	Belgaum	. Visited Angol Village Hand-pounding Centre. Interviews with non-officials.
January 1955	MYSORE	
10th	Bangalore	. Meeting with officials and non-officials.
11th	Tumkur	Meeting with representatives of Mills and Hand-pounding centres
	Bangalore	. Meeting with non-officials.

12th	Shimoga	. Meeting with non-officials representing Mills and Hand-pounding interests.
13th	Mysore	. Meeting with officials and non-officials.
	Krishnaraja-nagar.	Interviews with non-officials.
	Periapatan	. Meeting with non-officials.

COORG

14th	Mercara	. Visited Mills and interviews with officials and non-officials, representatives of Mill and Hand-pounding industry. Meeting with Chief Minister and Ministers.
15th	Virajpet	. Meeting with non-officials.
	Ponnampet	. Meeting with Mill-owners.
31st	Delhi	. Meeting.

February 1955

1st	Delhi	. Meeting.

MADHYA PRADESH

3rd	Nagpur	. Meeting with Chief Minister and Ministers.
4th	Nagpur	. Visited Mills, Interviews with officials and non-officials. Visited Industrial School.
5th	Raipur	. Visited Mills, Meeting with representatives of rice mills and Purchasing Agents.
6th	Raipur	. Meeting with non-officials.
7th	Bilaspur	. Meeting with officials and non-officials. Visited Village Rattanpur.
8th	Raigarh	. Meeting in Town Hall with Millers, traders in hand-pounded rice, and D. C.—Visited villages of Konoarari and Patel Pali.

MADRAS

11th to 13th	Madras	. Meeting. Discussion on the material collected in the States of West Bengal, Bombay, Mysore, Coorg and Madhya Pradesh.

ANDHRA

15th	Eluru	. Visited National Extension Training Centre at Copannapalem, Village Poddevegi, Village Somavarappudown and meeting with officials and non-officials.
16th	Vijayawada (Bezwada)	Meeting with non-officials.
17th	Tenali	. Meeting with non-officials, representatives of mills and hand-pounding industry.
18th	Kurnool	. Meeting with Governor, officials and non-officials.

TRAVANCORE-COCHIN

March 1955

5th	Trivandrum .	Meeting with Chief Minister, Officials and non-officials.
6th	Nagarcoil .	Examined witnesses.
	Cape Comorin.	Meeting with Shri P. S. Nataraja Pillai, Ex-Minister and M.L.As.
7th	Alleppey .	Meeting with officials and non-officials.
8th	Kottayam .	Meeting with non-officials.
9th	Trichur .	Meeting with workers of Kasturaba Kendra and Gram Swaraj Sangh and other non-officials.
	Tattamangalam	Meeting with non-officials.

MADRAS

10th	Pollachi .	Meeting with non-officials.
	Coimbatore .	Meeting with officials and non-officials.
11th	Madurai .	Meeting with non-officials. Visited Kullupati Gandhi Ashram Hand-pounding Centre.
12th	Tanjore .	Meeting with non-officials.
13th	Chidambaram	Meeting with non-officials.
	Cuddalore .	Meeting with non-officials.
14th	Madras .	Meeting with Governor, Ministers and officials.
15th	Madras .	Meeting with officials and non-officials.

HYDERABAD

16th	Warangal .	Meeting with officials and non-officials.
17th & 18th	Hyderabad	Meeting with Chief Minister, Ministers, officials and non-officials.
19th	Mahboob Nagar.	Meeting with officials and non-officials.

ORISSA

22nd	Balasore .	Meeting with officials and non-officials.
23rd	Cuttack .	Meeting with officials and non-officials.
	Bhuvaneshwar	Meeting with Chief Minister and Ministers.
24th		Visited Kirthang and Kalarabank rural centres.

ASSAM

April 1955

11th	Shillong	Meeting with officials.
12th	Shillong	Meeting with Ministers, officials and non-officials.
13th	Gauhati	Meeting with non-officials. Visited Kasturaba Gandhi Ashram, Sarania.

UTTAR PRADESH

17th	Kanpur	Visited mills, Meeting with officials and non-officials.
18th	Basti	Visited Shoratgarh and Nowgarh. Meeting with officials and non-officials.
19th	Lucknow	Meeting with Ministers, officials and non-officials.

BIHAR

20th & 21st.	Patna	Meeting with Governor, Ministers, officials and non-officials.

PUNJAB

25th	Chandigarh	Meeting with Minister and officials.
	Amritsar	Meeting with officials and non-officials.

RAJASTHAN

28th	Jaipur	Meeting with officials and non-officials.
29th	Jaipur	Meeting with Minister, officials & non-officials. Visited Village Bassi in Extension Block area.

MADHYA BHARAT

May 1955

1st	Indore	Meeting with Minister, officials and non-officials. Visited centres of hand-chakki dal.
3rd	Gwalior	Meeting with officials and non officials Visited dal mills.
10th to 11th	Ootacamund	Meeting.
12th	Coonoor	Discussion with the Director Nutrition Research Laboratories.
13th to 20th	Ootacamund	Meeting.
27th to 30th	Delhi	Meeting.

June 1955

13th to 2	Delhi	Meeting.

APPENDIX XII

A TYPICAL SELF-CONTAINED OR AUTOMATIC RICE MILLING PLANT MANUFACTURED IN INDIA

(By courtesy of Messrs. G. G. Dandekar Machine Works, Ltd.)

Another Rice Mill Scene in Bengal showing the steeping Tanks and the parboiling of paddy actually in progress.

Note the steam rising from the parboiling cylinder from the bag of pad just being removed.

INTERIOR OF A RICE MILL IN BENGAL

The plant shown here is of the ordinary huller type. Two stages of the hulling operation are clearly visible. The grain being delivered into the basket in the background has only had the husk removed, as its dark colour shows. The second huller has carried the process a stage further by removing the bran and is seen delivering a comparatively white product which is in turn passed through the set of sieves in the left foreground.

Dhenki for polishing dehusked rice

(1) *Specification* :—

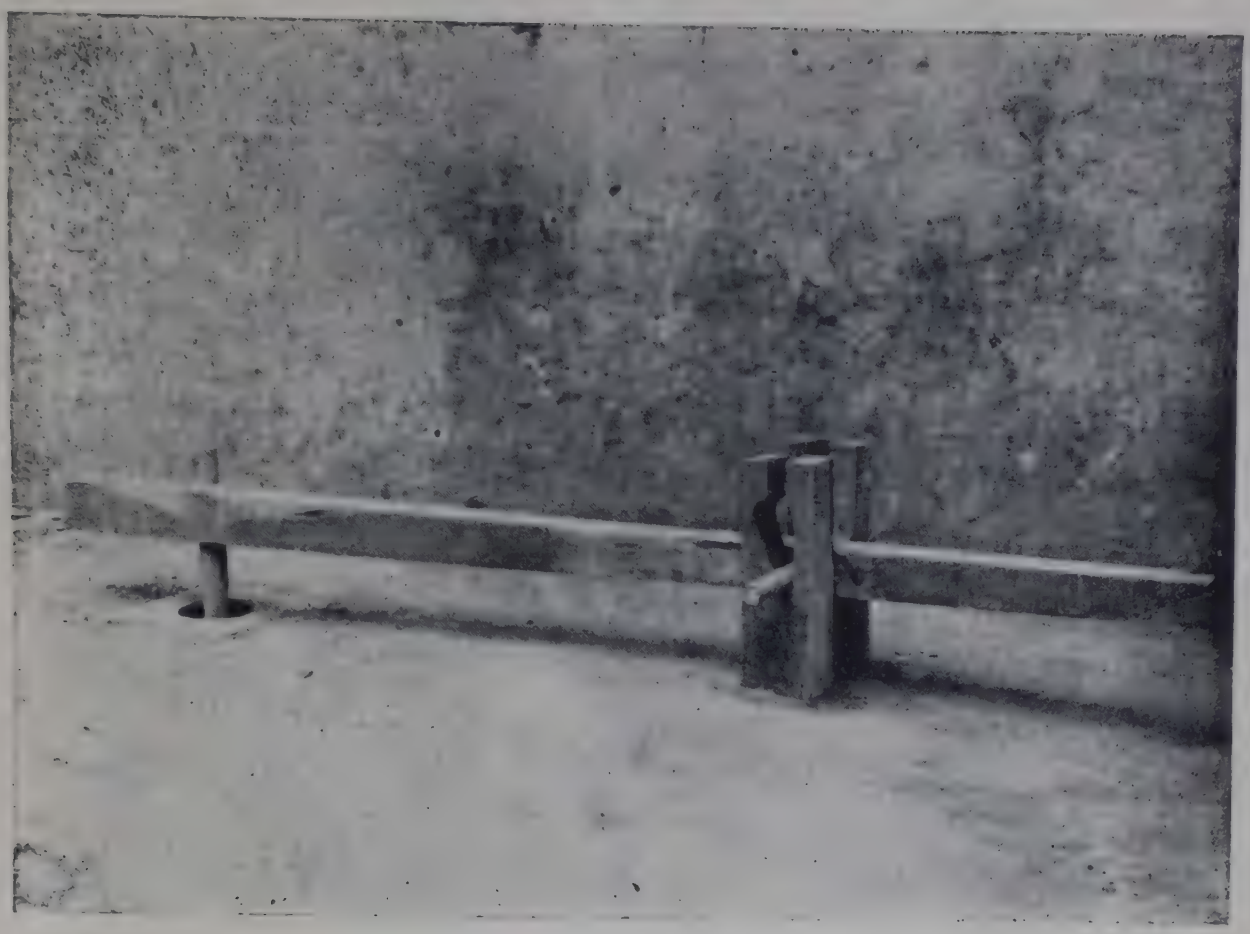
(*a*) Weight of Dhenki	1⅓ B. Mds.
(*b*) Length of Pestle Bar	9 Feet
(*c*) Breadth of Pestle Bar	4 ,,
(*d*) Depth at the paddle bar	2⅓ ,,
(*e*) Depth at the pestle end	5 ,,
(*f*) Distance of axle from paddle end	2″ 6″
(*g*) Distance of pestle from arle	5′
(*h*) Cost of each Dhenki is	Rs. 40/- F.O.R. Booking station

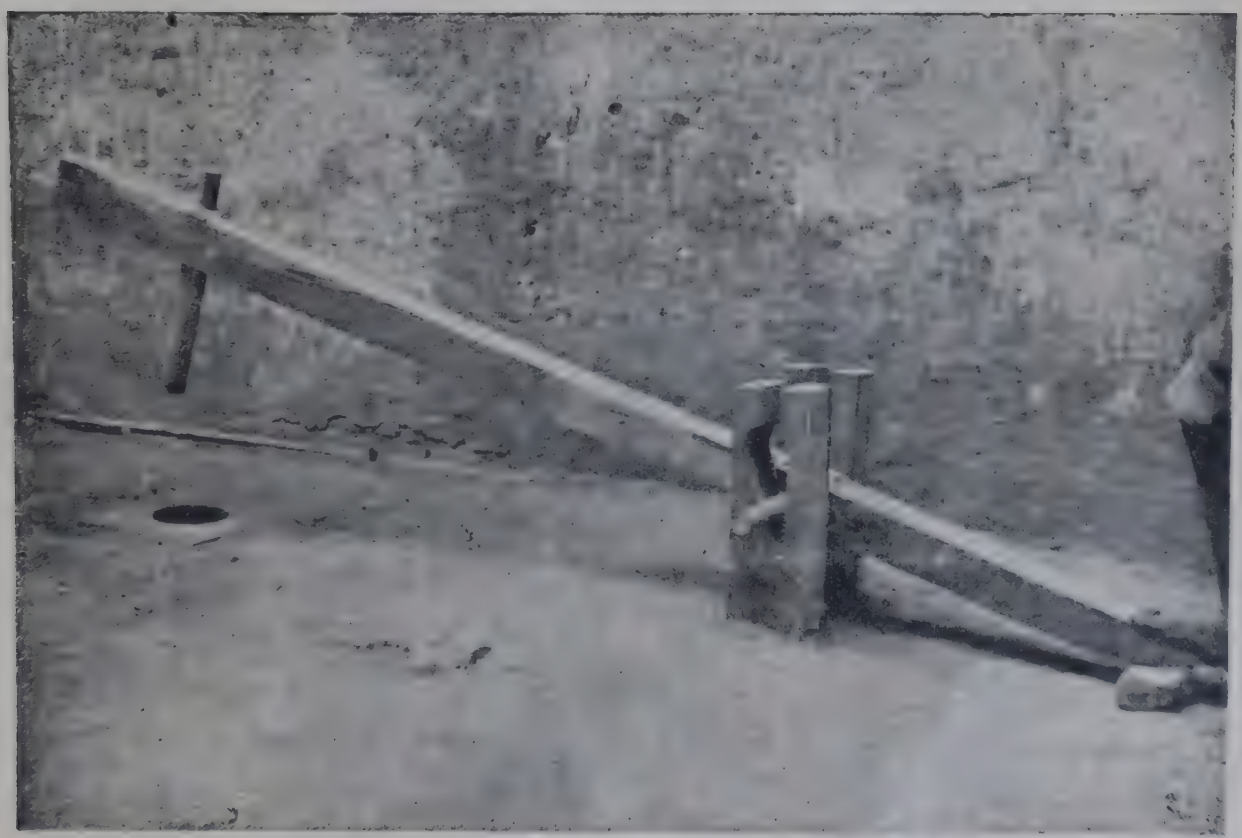
(2) *Capacity* :—

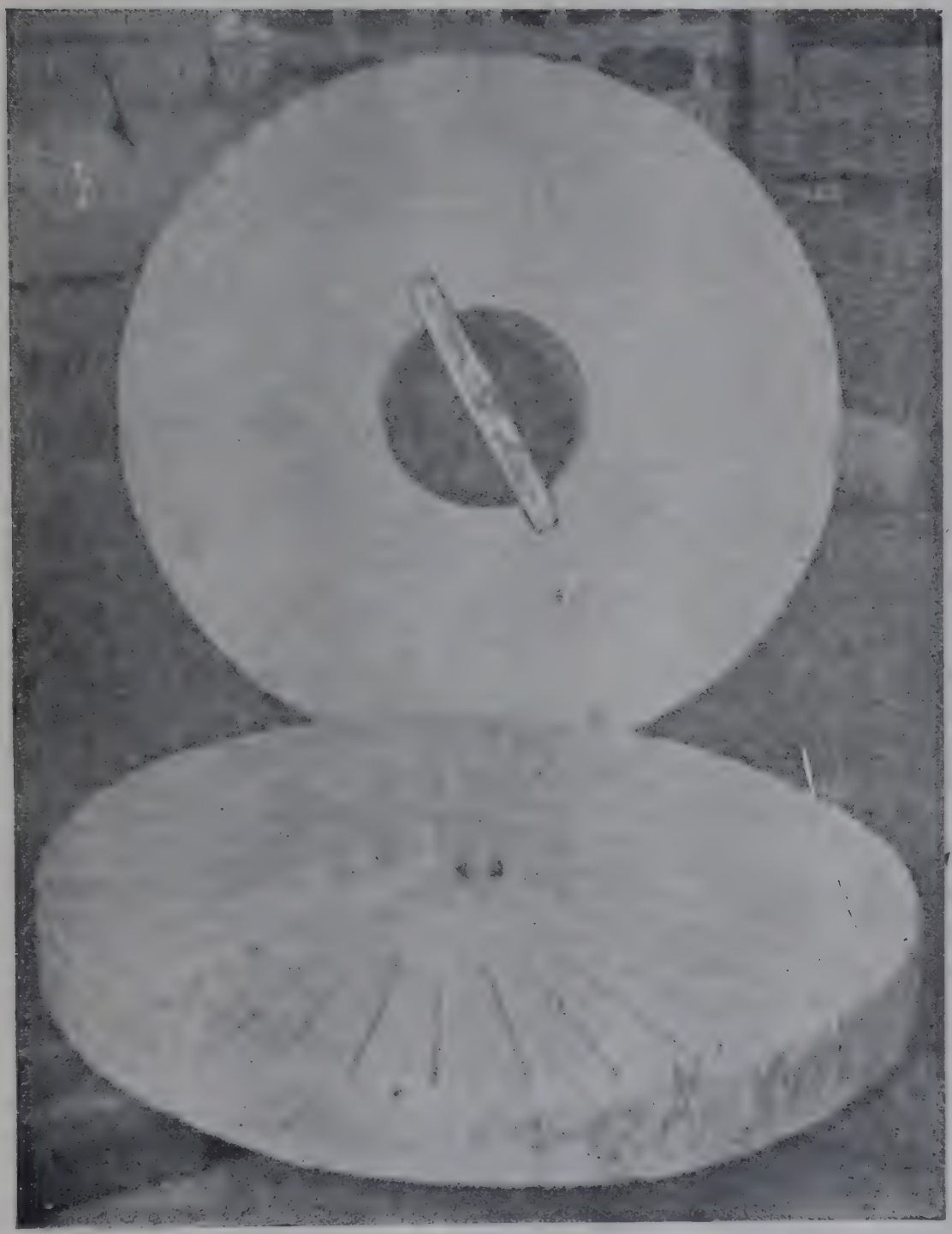
(*a*) 2 persons can dehusk and polish 3 B. Mds. of paddy in a day of 8 hours working

(*b*) 2 persons can polish 8 B. Mds. dehusked rice in a day of eight hours working.

———







Stone chakki for dehusking paddy

(1) *Specification* :—

(*a*) Diameter of each stone of chakki is . . 24″

(*b*) Diameter of inlet to pour paddy is . . 7″

(*c*) Thickness of each stone is . . . 3″

(*d*) Weight of complete chakki is . . . 2 3/4 B. mds.

(*e*) Cost of each chakki is . . . . Rs. 40/- F.O.R. booking station.

(2) *Capacity* :—

3 persons can dehusk 10 B. mds. of paddy in a day of 8 hours working, two being required to run chakli while one to separate husk from rice.

(3) *Working* :—

(*a*) The lower stone is to be rested on three wooden pieces while the upper stone is to be rested on lower stone.

(*b*) Simply by pushing in and pulling out the three wooden pieces on which chakki rests, chakki becomes lighter or heavier respectively.

LIBRARY

Winnowing fan for separating husk from dehusked paddy

Cost :—

Rs. 100/- each F. O. R. Booking Station.

Capacity :—

Two persons can separate husk from 80 B. Mds. of dehusked paddy in a day of 8 hours working.

GMGIPD—DME—60M ofF.&A.—6-11-58—500.

C. F. T. R. I. LIBRARY, MYSORE.

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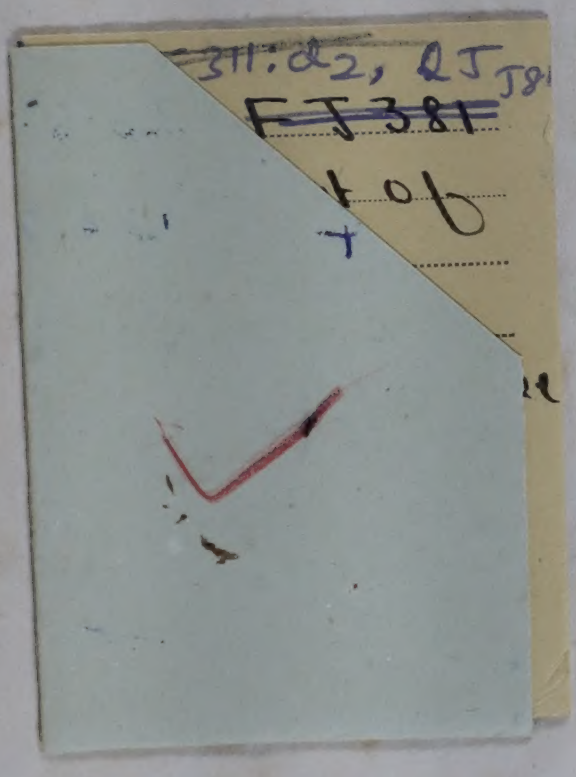
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